

Student Borrowing and Debt Burden of Undergraduates

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Abstract

Since the Higher Education Act was amended in 1992, the number and amount of loans to students has increased dramatically, sparking concern among students, parents, higher education leaders, and policymakers nationwide. It is important to assess at the institutional level how much students are borrowing and how much debt they are accumulating. This study reports student loan debt among undergraduates at a large public university system, including the characteristics of those who borrow and the magnitude of indebtedness as expressed by salary required to repay the amount borrowed.

Student Borrowing and Debt Burden of Undergraduates

Introduction

A number of recent studies have chronicled the national rise in student borrowing and debt burden over the past decade. One such study from the General Accounting Office (U.S. GAO, 1998)

abundance of loans may provide access to students who would not otherwise be able to attend college, it may bring a larger problem for some students in the form of debt.

Student indebtedness causes much concern among higher education leaders and policymakers as the repercussions of debt burden can have widespread effects. One issue causing concern is the potential for default. Student loan default rates rose each year from 1987 (the first year national default rates were calculated) until reaching a high of 22% in 1990. The default rate has since declined as the Department of Education has employed more aggressive debt collection strategies and disqualified institutions with substantially high default rates from participating in the student loan program. Since 1990 though, the number of student loans has more than doubled, leading to speculation that the sheer volume of outstanding loans may once again have default rates on the rise. The basic idea behind using loans to finance postsecondary education is that the return on investment, that is the opportunities provided by attainment of a higher education degree, put the student in position to repay the loans. However, if the amount of borrowing itself leads to default, the student is making an investment that he or she cannot afford.

A second concern is how indebtedness affects students' decisions after graduation. Does debt burden influence career choices, directing students toward higher paying jobs rather than jobs with lower incomes but of considerable societal benefit, such as teaching or social work? Are plans to obtain a graduate or professional degree being delayed or canceled because of the amount of debt accumulated as an undergraduate? Are life decisions such as marrying, buying a home, or having a child delayed because of debt burden? Although no consensus has been reached, it is typically suggested that student loan payments not exceed 8 – 10% of one's monthly income. Even if one's salary is sufficient enough to make a monthly payment within these boundaries and still live comfortably, the individual still has 8 – 10% less discretionary income because of student loan debt.

Method

The purpose of this paper is to assess the state of borrowing and debt burden among undergraduates at the institutional level by examining the loans of students at a large public university system—the campuses of the University of Missouri System. UM-Columbia is a traditional residential campus of about 17,000 undergraduate students, 92% of which attend full-time. UM-Rolla is also a residential campus, but differs both in its size and in its primary focus on engineering and technology. About 4,000 undergraduates are enrolled at UM-Rolla, 88% of which attend full-time. UM-Kansas City and UM-St. Louis are each located in an urban setting and have undergraduate enrollments of around 6,000 and 13,000, respectively. About 63% of undergraduates at UM-Kansas City and 39% of undergraduates at UM-St. Louis attend full-time.

Student enrollment and student financial aid records of the University's relational database provide the data for this study. The sample includes fall 1997 degree-seeking undergraduates who applied for and/or received aid in the 1997-98 aid year and incurred debt in either the current year or in prior years. Current and prior years' debts include subsidized, unsubsidized, consolidated, and Perkins loans. Prior years' debt may also include debt incurred at previously attended institutions. Students in the six-year professional programs at UM-Kansas City have been removed from this analysis. These students are unique in that they receive their bachelor and professional degrees simultaneously and therefore are not comparable to other undergraduates in the amounts borrowed for their educations.

This report will first assess the proportion of students who are borrowing and the types of loans they are receiving. Next, descriptive statistics will be used to identify the characteristics of those who had debt as well as the level of debt accumulated by each characteristic group. Research on a national level (Dynarski, 1994; Volkwein & Szelest, 1995) has shown that borrower characteristics have an influence on indebtedness and default behavior. While this research does not go so far as to identify or predict student loan defaulters, it does provide a demographic and socioeconomic profile of student borrowers.

In addition, this report will use annual salary required to repay student loan debt as a measure of the magnitude of indebtedness. For most types of loans, students are required to begin repayment six to

nine months after graduation or withdrawal from higher education. While previous studies (King, 1997; Steiner, 1998) have concluded that debt and monthly payments are at reasonable levels for repayment, the fact remains that every dollar a graduate must spend on student loan repayment is a dollar he or she could spend otherwise. The salary earned determines whether monthly student loan payments can be made without having a detrimental impact on personal decisions, career choices, and lifestyles.

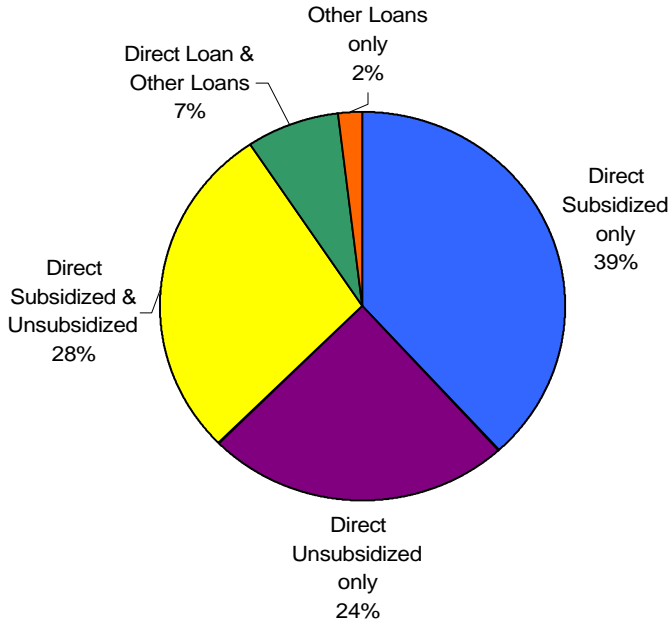
Results

Federally supported direct loans make up the majority of loans to students. The major types of direct loans are subsidized loans, based on financial need; unsubsidized loans, given regardless of financial need; and PLUS loans, available to parents of dependent students rather than the students themselves. Figures 1 through 4 show the types of loans undergraduates at the University of Missouri received in 1997-98. PLUS loans are not included as they are debts of the parents, not the students.

- The percentage of undergraduate students receiving any type of loan ranges from 28% at UM-St. Louis to 56% at UM-Rolla. The proportions at UM-Columbia and UM-Kansas City were 43% and 45% of undergraduates, respectively.
- Although UM-St. Louis had the lowest percentage of undergraduates with loans, the average amount borrowed was greater than the averages at the Columbia or Rolla campuses by over \$1,000. UM-Kansas City's undergraduates had the highest average loan amount at around \$6,500 per borrower.
- For the most part, loan combinations were similarly distributed at the Columbia, Kansas City, and St. Louis campuses, with around 80 – 90% of students falling into one of three categories: direct subsidized only, direct unsubsidized only, or both direct subsidized and unsubsidized. At UM-Rolla, however, 55% of students had some other form of loan, either alone or in combination with a direct subsidized and/or unsubsidized.

Figure 1
UNIVERSITY OF MISSOURI - COLUMBIA

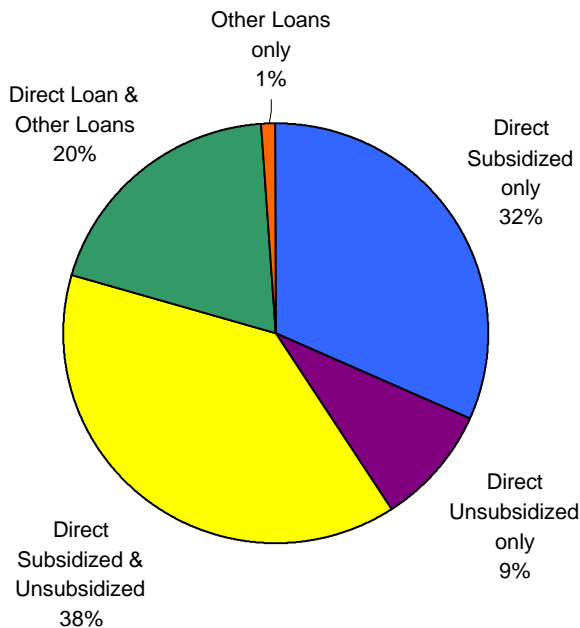
Distribution of 1997-98 Borrowers by Loan Type
Fall 1997 Degree-Seeking Undergraduates



Loan Combination	%	Avg. Per Borrower
Federal Direct Subsidized Only	39	\$3,606
Federal Direct Unsubsidized Only	24	\$3,930
Both Federal Direct Subsidized & Unsubsidized	28	\$5,697
Federal Direct Loan & Other Loans	7	\$6,849
Other Loans only	2	\$4,063
Any Loan	43	\$4,525

Figure 2
UNIVERSITY OF MISSOURI - KANSAS CITY

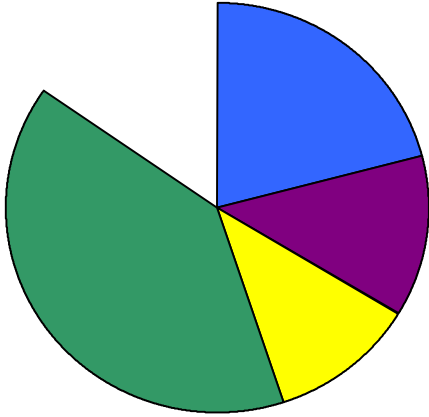
Distribution of 1997-98 Borrowers by Loan Type
Fall 1997 Degree-Seeking Undergraduates



Loan Combination	%	Avg. Per Borrower
Federal Direct Subsidized Only	32	\$3,899
Federal Direct Unsubsidized Only	9	\$4,865
Both Federal Direct Subsidized & Unsubsidized	38	\$8,298
Federal Direct Loan & Other Loans	20	\$8,381
Other Loans only	1	\$1,926
Any Loan	45	\$6,547

Figure 3
UNIVERSITY OF MISSOURI - ROLLA

Distribution of 1997-98 Borrowers by Loan Type
 Fall 1997 Degree-Seeking Undergraduates



Loan Combination	%	Avg. Per Borrower
Federal Direct Subsidized Only	21	\$3,814
Federal Direct Unsubsidized Only	13	\$4,108
Both Federal Direct Subsidized & Unsubsidized	11	\$6,456
Federal Direct Loan & Other Loans	40	\$5,337
Other Loans only	15	\$1,507
Any Loan	56	\$4,404

Figure 4
UNIVERSITY OF MISSOURI - ST. LOUIS

Distribution of 1997-98 Borrowers by Loan Type
 Fall 1997 Degree-Seeking Undergraduates

Loan Combination	%	Avg. Per Borrower
Federal Direct Subsidized Only	37	\$3,658
Federal Direct Unsubsidized Only	16	\$4,410
Both Federal Direct Subsidized & Unsubsidized	36	\$7,541
Federal Direct Loan & Other Loans	10	\$7,943
Other Loans only	1	\$1,134
Any Loan	28	\$5,578

The previous four figures presented the state of borrowing at each campus. The next set of tables examine how this borrowing translates into debt burden. Tables 1 through 4 display the demographic and socioeconomic characteristics of fall 1997 degree-seeking undergraduates with accumulated and/or current year debt. Median debt is used along with average debt to demonstrate the influence that a few borrowers with extreme debt can have on the mean.

- The percentage of degree-seeking undergraduates with debt ranged from 63% at UM-Rolla to 46% at UM-Kansas City and UM-St. Louis. At UM-Columbia, 48% of degree-seeking undergraduates had debt. While UM-Kansas City and UM-St. Louis had the lowest percentages of undergraduates with debt of the four campuses, these two campuses had the highest average debts at around \$14,700 and \$12,900, respectively.
- While a smaller percentage of part-time students had debt compared to full-time students, the average debt of part-time students was \$2,500 to \$5,000 higher than the average of full-time students at each campus.
- At all four campuses, underrepresented minorities had higher proportions of students with debt and higher average debts than did Asian or White students.
- Average debt by income level shows that those in the low income group often had higher debt than did the middle and high income groups. Only among dependent undergraduates at UM-St. Louis did the average debt increase with income level group.

**Table 1. Debt of Fall 1997 Degree-Seeking Undergraduates
University of Missouri - Columbia**

	<u>% with debt</u>	Average Debt	Median Debt
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**Table 2. Debt of Fall 1997 Degree-Seeking Undergraduates
University of Missouri - Kansas City**

**Table 3. Debt of Fall 1997 Degree-Seeking Undergraduates
University of Missouri - Rolla**

	% with debt	Average	Median
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**Table 4. Debt of Fall 1997 Degree-Seeking Undergraduates
University of Missouri - St. Louis**

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Although Tables 1 through 4 provide a snapshot of debt, or how much debt 1997-98 undergraduates had in one year of their enrollment at the University, it is more important to assess the accumulation of debt over the four to six years or more it typically takes a student to obtain a bachelor degree. The debt accumulated upon graduation could be an influential factor in a number of postgraduation decisions. Table 5 reveals the debt burden of 1997-98 bachelor degree recipients.

- The proportion of students graduating with debt at each campus follows a pattern similar to the previous two findings of the percentage of undergraduates borrowing in 1997-98 and the percentage with debt in 1997-98. UM-Rolla had the largest percentage of bachelor degree recipients in debt at 52%, while UM-St. Louis had the lowest proportion at 34%.
- Bachelor degree recipients at UM-Kansas City had the highest average debt at over \$20,000. The lowest average debt occurred at UM-Rolla (about \$15,800), followed closely by UM-Columbia and UM-St. Louis, around \$16,000 and \$17,800, respectively.

Table 5. Debt of 1997-1998 Bachelor Degree Recipients at the University of Missouri

	% With Debt	Average Debt	Median Debt	Amount Borrowed				
				Less than \$10,000	\$10,000 - 19,999	\$20,000 - 29,999	\$30,000 - 39,999	\$40,000 or More
UM-Columbia	40%	\$16,161	\$15,858	22%	50%	22%	4%	2%
UM-Kansas City	44%	\$20,403	\$18,864	18%	37%	27%	12%	7%
UM-Rolla	52%	\$15,823	\$15,886	25%	47%	23%	5%	1%
UM-St. Louis	34%	\$17,804	\$15,860	21%	46%	20%	10%	3%

Student loan repayment is highly dependent on a student's ability to repay as measured by income earned. Likewise, income earned is dependent to some degree on a student's choice of degree program and the career opportunities created by this choice. Table 6 examines debt of bachelor degree recipients by degree program area, using the median debt in each program area to estimate the monthly payment and income required to keep the monthly payment at a suggested level of 9% of gross income. Monthly payment amounts are based on an interest rate of 8.25% and a repayment period of 10 years.

- Graduates of health-related program areas appear to be most in debt, as 63% at UM-Kansas City and 54% at UM-Columbia had debt upon graduation. A lower percentage of health degree recipients at UM-St. Louis had debt (36%) but their average debt of \$24,000 was comparable to that of UM-Kansas City (\$26,000) and slightly more than that of UM-Columbia (\$18,000) health graduates.
- Graduates in the social science areas generally had higher debtloads than did graduates in business or engineering, career areas typically considered to have higher income potential. At UM-Kansas City, a social science degree recipient would have to earn a salary of almost \$34,000 to comfortably pay the monthly amount of \$255 while a business degree recipient would need only \$24,500 annually to make the \$184 monthly payment.

Table 6. Debt of 1997-1998 Bachelor Degree Recipients by Program Category

	% With Debt	Average Debt	Median Debt	Monthly Payment Based on Median Debt	Required Annual Income
University of Missouri-Columbia					
Bachelors Degree Program Area²					
Engineering	34%	\$17,864	\$17,463	\$214	\$28,559
Social Sciences	38%	17,193	17,120	210	27,997
Mathematics & Sciences	41%	16,786	17,013	209	27,823
Health	54%	18,115	16,905	207	27,645
Human Environmental Sciences	32%	16,670	16,651	204	27,231
Humanities & Fine Arts	42%	16,796	15,605	191	25,520
Agriculture	47%	14,785	15,125	186	24,735
Business	37%	14,958	14,705	180	24,048
Communications	33%	14,569	14,648	180	23,955
Education	45%	14,870	14,526	178	23,756
University of Missouri-Kansas City					
Health	63%	\$26,258	\$26,313	\$323	\$43,032
Social Sciences	48%	22,581	20,786	255	33,993
Communications	32%	19,553	18,323	225	29,965
Mathematics & Sciences	31%	21,254	17,466	214	28,563
Humanities & Fine Arts	42%	18,383	17,460	214	28,553
Education	49%	18,112	16,000	196	26,165
Business	44%	16,335	15,026	184	24,573
University of Missouri-Rolla					
Social Sciences	34%	\$19,388	\$17,017	\$209	\$27,829
Mathematics & Sciences	39%	15,699	15,860	195	25,937
Engineering	55%	15,669	15,809	194	25,853
Humanities & Fine Arts	n < 5				
University of Missouri-St. Louis					
Health	36%	\$24,251	\$22,976	\$282	\$37,575
Humanities & Fine Arts	25%	17,137	17,063	209	27,904
Mathematics & Sciences	32%	20,383	15,804	194	25,845
Social Sciences	35%	17,956	15,298	188	25,017
Education	51%	17,296	15,013	184	24,552
Business	25%	15,194	14,637	180	23,937
Communications	27%	15,983	13,324	163	21,789
Engineering	n < 5				

Conclusion

For the most part, Figures 1 through 4 did not produce any startling results. The vast majority of undergraduates who borrowed received a federal direct loan, which is the simplest application and delivery system for borrowers. Loans are made directly from the federal government, and the educational institution serves as the originator of the loan on behalf of the federal government. This process ensures that the needed money will be available and that funds are transferred to the institution from a single source rather than from multiple lenders.

The one anomaly in the distribution of loan types was the large proportion of undergraduates at UM-Rolla in the category of Direct Loan & Other Loans – 40% compared to only 20% at UM-Kansas City, 10% at UM-St. Louis, and 7% at UM-Columbia. Further analysis of this category revealed that the majority of these borrowers received a Perkins loan in combination with a federal direct subsidized loan. Perkins loans are federal direct loans that require exceptional financial need. They were not made a separate category for this analysis because for the most part Perkins loans make up a very small portion of loans to University of Missouri students. The Rolla campus is an exception in that 14% of borrowers received a Perkins loan in 1997-98.

Students who receive both Perkins and direct subsidized loans clearly have need in that both loan programs are based on financial need. Yet, the average amount per borrower in this category at each campus is higher than for most other categories of loan combination recipients. The students most in need of financial assistance are having to go further in debt to finance their education, evidence of the federal

in higher education were more likely to have debt than were White or Asian students. Again, those more likely to have need are taking out more loans and going further into debt to finance their education.

Another interesting finding in Tables 1 through 4 is that the debtloads of part-time students are about \$5,000 higher than those of full-time students, except at the St. Louis campus where part-time undergraduates averaged about \$2,500 more debt than full-time students. Students attend part-time primarily for two reasons: 1) they are working to support their education, or 2) they are going to school to support their career. In either situation these students are enrolled in hopes that they will better their situations by obtaining a degree. These students are already at risk of dropping out before degree completion because of the longer time involved in completing a degree part-time. Adding substantial debt to the situation only sets these students further back in their quest for a better opportunity.

The accumulated debt of graduates is very revealing because it puts into perspective what students are faced with as they enter their post-college lives. A monthly payment of \$190 may not seem all that excessive at first glance, but when you consider that the graduate will be making that payment for ten years after he graduates, it seems more foreboding. Furthermore, the 9% is of gross income, meaning the borrower has yet to consider income taxes and other personal expenses such as rent or mortgage, car payment, family expenses, and other personal items that are usually consumed by the time a person has been out of school ten years. A loan of \$16,000 will result in actual repayment of over \$23,000 over ten years. Those with loans are at the disadvantage of paying substantially more for their education than those without loans.

Perhaps the one positive aspect in the debt of graduates was that students' degree program choices do not seem to be influenced by debt accumulation. The debtloads of students in humanities, fine arts, and social sciences are as high as or higher than the debt of students in areas typically associated with higher income potential like engineering or business. Therefore, it appears that students are following their interests, regardless of the resources required in the future to repay their debts.

At the same time, however, this finding is also very troubling. If students in areas that do not typically produce high incomes are further in debt than others, their investment is probably not going to

pay off, at least not right away. Of course, degree program area is not an absolute predictor of anyone's future income potential, but in general there are areas which have historically gathered higher salaries than others. It is an unenviable situation for those students who are paying substantial student loan debt while earning a somewhat less than ideal income.

The findings of this study can be summarized into one recurring theme: the students who can least afford debt have the most debt. The borrowing patterns of 1997-98 undergraduates revealed that students demonstrating financial need—Perkins and subsidized loan recipients—borrowed more on average than did other loan recipients. A characteristic profile of students with debt revealed that in 1997-98 minorities were more likely to be in debt than non-minority students and the average debt of minorities was \$2,000 - \$3,000 higher than the average debt of non-minorities. The same characteristic profile revealed that on average low income students had more debt than students in higher income groups.

This paper sought to assess the state of student loan debt on an institutional level and found that within the University of Missouri there may be reason for concern. Debt levels are considerable and are more prevalent among the groups least likely to reasonably bear them. Is the price of higher education to blame for the debt burden students are enduring? Is the federal government at fault for providing needy students loans rather than grants? Are the parents part of the problem by not properly saving for their children's educations? All of these likely contribute to the high debt levels seen in higher education today, but it is the combination of these issues and a multitude of others that make student loan debt an important issue for higher education leaders, policymakers, families, and students.

A college degree is quickly becoming a necessity in today's high demand job market. The

Notes

¹ Low income students had incomes in the lowest quartile. Middle income students were from the two middle quartiles and high income students had incomes in the top quartile. Income groups were as follows:

	UM-Columbia	UM-Kansas City	UM-Rolla	UM-St. Louis
Dependent Income				
Low	Less than \$29,182	Less than \$25,573	Less than \$30,305	Less than \$24,456
Middle	\$29,182 - 71,669	\$25,573 - 63,439	\$30,305 - 69,454	\$24,456 - 66,889
High	Above \$71,669	Above \$63,439	Above \$69,454	Above \$66,889
Independent Income				
Low	Less than \$8,575	Less than \$6,427	Less than \$3,200	Less than \$6,785
Middle	\$8,575 - 22,997	\$6,427 - 24,546	\$3,200 - 15,573	\$6,785 - 23,542
High	Above \$22,997	Above \$24,546	Above \$15,573	Above \$23,542

² **Agriculture** includes general agriculture, agriculture economics, agriculture systems management, agronomy, agriculture mechanization, fisheries & wildlife, forestry, plant sciences, animal sciences, agriculture journalism, parks, recreation, & tourism, and food science & nutrition.

Business includes accounting, business administration, and hotel & restaurant management.

Communications includes journalism, communication, and communication studies.

Education includes agricultural education, early childhood education, educational studies, elementary education, middle school education, music education, physical education, secondary education, special education.

Engineering includes aerospace engineering, ceramic engineering, agricultural engineering, biological engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, engineering management, geological engineering, industrial engineering, mechanical engineering, metallurgical engineering, mining engineering, nuclear engineering, and petroleum engineering.

Health includes communication science & disorders, dental hygiene, nursing, occupational therapy, pharmacy (BSP), physical therapy, radiologic sciences, respiratory therapy.

Human Environmental Sciences includes consumer & family economics, human nutrition, environmental design, human development, and textile & apparel management.

Humanities & Fine Arts includes visual & performing arts, art history, classical studies, English, foreign languages, general studies, interdisciplinary, international studies, liberal arts, philosophy, and religious studies.

Mathematics & Sciences includes biochemistry, biology, chemistry, computer science, geology, geophysics, life sciences, management systems, mathematics, microbiology, physics, soil & atmospheric sciences, and statistics.

Social Sciences includes administration of justice, anthropology, art history & archaeology, criminology & criminal justice, economics, geography, history, international studies, political science, psychology, public administration, social work, sociology, and urban affairs.

References

- Campaigne, D. A., & Hossler, D. (1998). How do loans affect the educational decisions of students? Access, aspirations, college choice, and persistence. *Condemning Students to Debt: College Loans and Public Policy* (pp. 85-104). New York and London: Teachers College Press, Columbia University.