

Pilot Study of Debt Elasticity

NOVEMBER 6, 2006

Iowa College Student Aid Commission
Research



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November 2006

Just as consumer choices are affected by the price of a product, college attendance is affected by a combination of tuition, fees and the availability of personal funds, scholarships, grants and loans. For many students, the availability of student aid can make the difference between attendance at the college of choice vs. an alternate institution. It can make the difference between college attendance today, vs. college attendance delayed.

Consumers evaluate the purchase of a product in terms of the perceived price, quality and value (Zeithaml, 1988). Like most forms of debt, the obligation incurred by a college student may be expressed in terms of the total amount of a loan, or monthly loan payments. Unlike many consumers, student perceptions may also be described in terms of the annual salary needed to earn a comfortable living while repaying the loan after graduation. This report uses the term elasticity to describe students' anticipated behavior when considering their options about debt, college attendance and college choice. *Elasticity* is a fundamental microeconomic term that is used to explain relationships between consumer behavior and a variety of other variables. The elasticity of demand explains the relationship between offered price and quantity sold, Elasticity of income describes the relationship between personal income and expenditures. For this study, the term *elasticity* is intended to help describe the relationship between consumers' college choices and the retention decision when student debt is considered.

A study by the Iowa College Student Aid Commission research staff (Greiner, 1996) suggested that total debt upon graduation may become a burden if payments exceed approximately 8% of income after graduation. Results of the study suggested that a follow-up study was needed to explore the behavior of students when presented with choices about debt expressed in different terms.

To examine the topic, Commission researchers created a pilot survey. With the participation of Iowa financial aid officials, the survey was presented to a small sample of high school and college students. The survey asked respondents to estimate how likely they would be to attend the college of their choice without delay if faced with a given amount of student loan debt. Each of the survey questions expressed hypothetical loan debt in one of three ways: total debt upon graduation; monthly repayments; requisite annual salary.

For monthly payments, an example question asked for a rating of the "likelihood of attending your college of choice in the upcoming semester **if you will have to**

pay **\$696 monthly** after you graduate.” For other versions of the question, the \$696 amount would be substituted with other options ranging from \$0 to 1,393.

For total debt on graduation, an example question asked for a rating of the “likelihood of continuing with **\$20,000** debt upon graduation.” For other versions of the question, the \$20,000 amount would be substituted with other possible amounts of debt ranging from \$0 to \$120,000.

For expected income after graduation, an example question asked for the “likelihood of continuing **if you would have to earn an annual salary of at least \$127,000** after you graduate.” Other versions of the question included salary amounts ranging from \$16,000 to \$191,000.

Responses were presented as five ordinal choices:

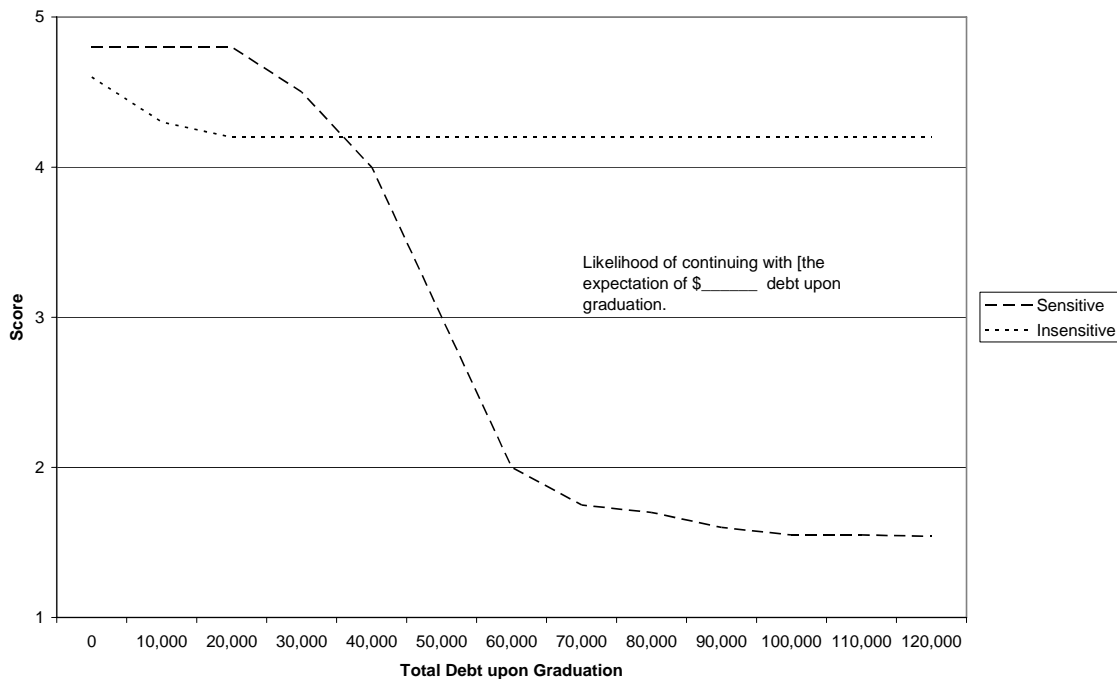
1. Not at all likely
2. Somewhat unlikely
3. Undecided
4. Somewhat likely
5. Very likely

A high score of 5, indicates that the individual would expect to continue at the college or university of choice. A low score of 1 indicates that the respondent is likely to change institutions.

Each of the three areas of study (monthly payments, total debt and income) was summarized in a graphical form. The nature of the graphed curve describes the relationship between student expectations of debt and the likelihood of attending the college of choice without delay. A steep decline suggests that a respondent is highly sensitive to the perceived financial component, while a flat chart suggests that the respondent is relatively insensitive to the component. For example, Chart 1 shows two theoretical perspectives of sensitivity between total debt and the likelihood of continuing at the same institution. The dashed line, “-- -- -- --,” shows intentions of an individual who may be very sensitive to total debt. For this individual, the likelihood of continuing at the same institution is very high when there is an expected debt less than \$30,000. However, the likelihood of continuing at this institution declines substantially between \$30,000 and \$60,000 and then is steady with a low score above \$60,000. The dotted line, “.....,” Shows an individual who may be insensitive to total debt. For this person, the likelihood of continuing at the same institution remains above 4 for all the debt categories presented.

Chart 1

Theoretical Perspectives of Total Debt



When respondents were presented monthly payments, (Chart 2) the likelihood of continuing at the same institution was high for monthly payments less than \$232, but then dropped rapidly to the monthly payment amount of \$696. The increase between \$696 and \$812 is most likely due to the extremely small sample size of this pilot, and would likely become more consistent with a larger sample. Participants showed the most sensitivity when the debt is expressed in terms of the number and value of monthly repayments.

When respondents were presented with total debt, (Chart 3) the likelihood of continuing at the same institution was high for debt less than \$30,000, but then declined steadily to about \$60,000, and then continued to decline, although at a lower rate, through \$120,000. For the participants in this pilot, those who considered debt in terms of the total amount were sensitive, but seemingly not as sensitive as those who considered the same amount of debt in terms of monthly payments. When respondents were presented the dollar amount of income that would be required to comfortably repay the loan, (Chart 4) the likelihood of continuing at the same institution was within a score of two and four for all ranges. Although the line sloped downward, it was less than either the monthly payment or the total debt scores. The participants in this pilot who considered debt in terms of the required salary seemed to be the least sensitive to required income.

The highly preliminary results of the pilot suggest that student acceptance of debt is more sensitive when it is expressed in terms of monthly payments that would be required to repay it, or in terms of total debt upon graduation. Students are relatively insensitive to the prospect of debt repayment when it is expressed in terms of the annual income required to keep it manageable.

Chart 2

Debt Elasticity Pilot Study
Monthly Payments -- Students

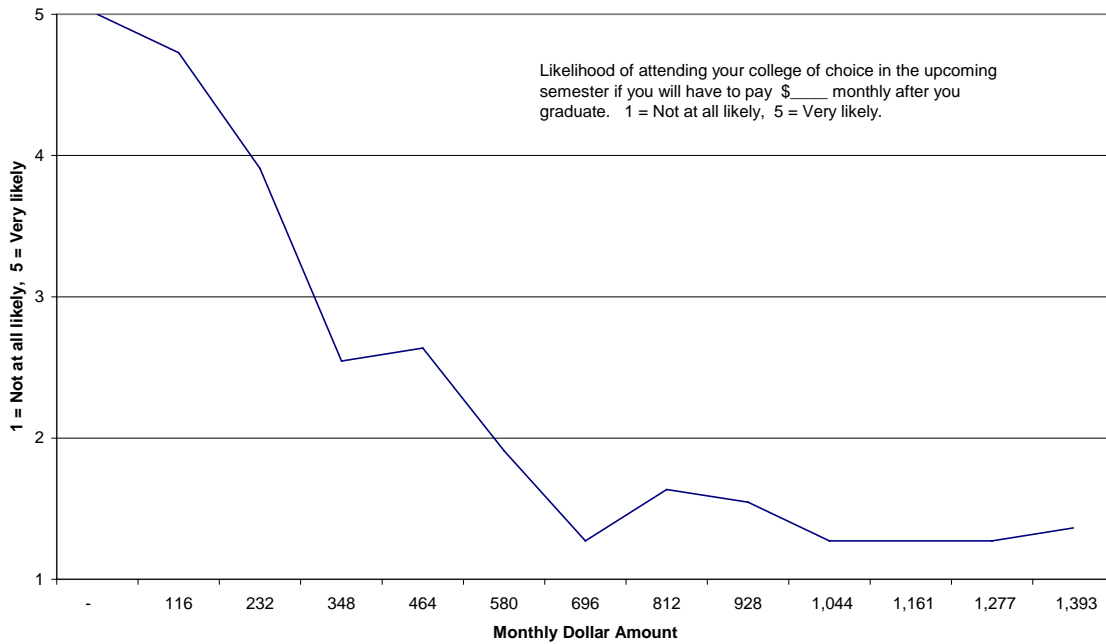


Chart 3

Debt Elasticity Pilot Study
Debt Upon Graduation -- Students

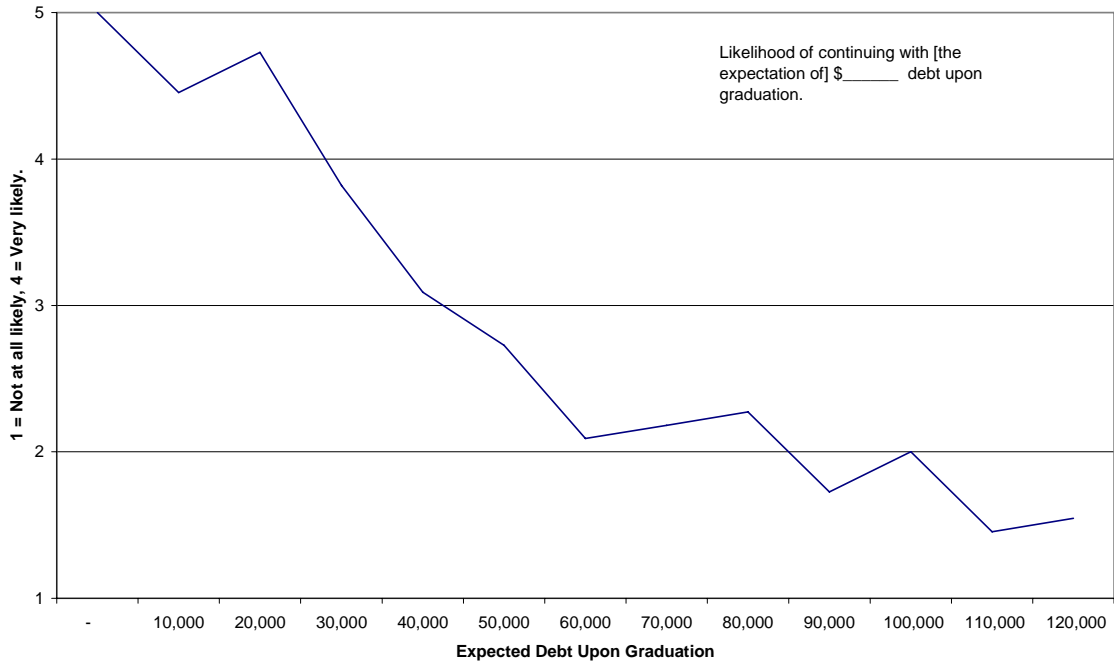
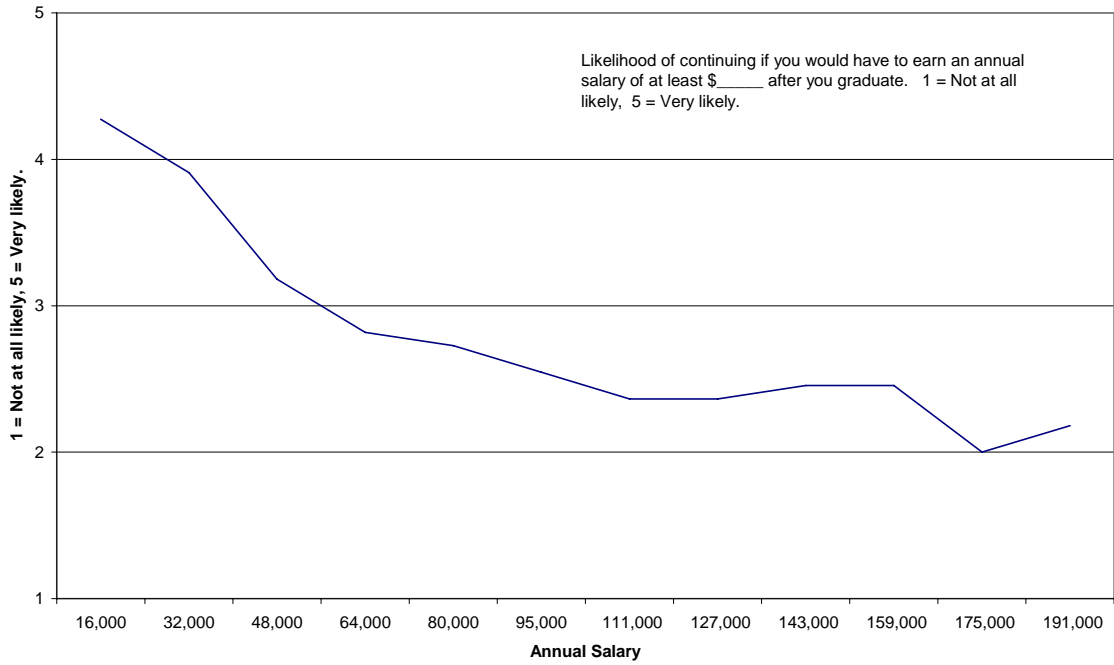


Chart 4

Debt Elasticity Pilot Study
Salary -- Students



Although the data showed a pattern among the small group of respondents, additional research is needed. There is a need to expand the number of respondents overall, and the number of respondents that fall into various academic categories. Students who plan to obtain an engineering degree or an advanced medical degree may demonstrate a significantly different pattern of elasticity than students seeking a teaching or general studies degree. Students planning to obtain four-year degrees may exhibit substantially different response patterns when compared to students planning to stop after two years of postsecondary education. High school students may have a substantially different response pattern than college students. Parents may have a substantially different response pattern than their children.

An understanding of each of these topics can help policy-makers, financial aid professionals, parents, and students better understand the implications of the cost of their college experience vs. the outcomes that can be expected.

Commission staff hope to facilitate one or more expanded studies of the topic to explore the many related avenues of research.

References

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Zeithaml, V. (1988, July). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*.

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