Economics of Education Review 53 (2016) 207–216

Contents lists available at ScienceDirect

Economics of Education Review

journal homepage: www.elsevier.com/locate/econedurev

Student loans or marriage? A look at the highly educated

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ARTICLE INFO

Article history:
Received 11 March 2014
Revised 1 February 2016
Accepted 15 April 2016
Available online 22 April 2016

JEL Classification:
I22
J12
J24

Keywords:
Student loans
Timing of marriage
Education expenditures

ABSTRACT

I examine the relationship between student loans and marital status among individuals considering or pursuing graduate management education. Using data from a panel survey of registrants for the Graduate Management Admission Test, I show that the amount of accumulated student debt is negatively related to the probability of first marriage. The strength of the relationship diminishes with age, more so for women than for men. At the median age for the sample (24 years at test registration), the estimated decrease over a seven-year period is between 3 and 4 percentage points per $10,000 in student debt for men and a percentage point lower in absolute value for women. I use information on reported marriage expectations to show evidence that education expenditures and the amount of debt are correlated with anticipated marital status, but borrowers may not have perfect foresight about the long-term consequences of accumulating student debt.

"*The debt load keeps [Dr. Bisutti] up at night. Her damaged credit has prevented her from buying a home or a new car. She says she and her boyfriend of three years have put off marriage and having children because of the debt.*"

– *The $555,000 Student-Loan Burden*, The Wall Street Journal, February 13, 2010

1. Introduction

The size of student debt has been growing over the past four decades, especially among graduate students. Two-thirds of graduate degrees are financed through loans. The average amount of federal loans per full-time equivalent graduate student in 2012 dollars increased from $9470 in the 1997–98 academic year to $16,240 in 2012–13, while the corresponding change for undergraduate students was from $3220 to $4900.[1] Among Master's degree recipients in 2012, 27% had accumulated between $40,000 and $79,999 in undergraduate and graduate loans, while 17% borrowed more for their postsecondary education.[2] The increase in borrowing is to a large extent due to rising costs; inflation-adjusted tuition and fees at Master of Business Administration (MBA) programs increased more than two-fold between 1992 and 2010, a growth rate that has not been matched by the growth in average starting salaries (Elliott & Soo, 2013).

In light of the increasing debt burdens of postsecondary students, there has been an onset of a discussion about the long-term implications of debt accumulated for postsecondary education.[3] Several recent studies have examined the impact of student loans on the career choices that graduates make. Minicozzi (2005) finds that education debt is correlated with higher earnings right after college but lower four-year wage growth and attributes the

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[1] All data are from the College Board (2013).

[2] http://trends.collegeboard.org/student-aid/figures-tables/cumulative-debt-undergraduate-graduate-studies-time (Accessed March 20, 2015).

[3] A related less recent strand of the literature finds an impact of education loans on physicians' choice of specialty (e.g. Bazzoli, 1985; Colquitt, Zeh, Killian, & Cultice, 1996; Woodworth, Chang, & Helmer, 2000).

http://dx.doi.org/10.1016/j.econedurev.2016.04.006
0272-7757/

observed difference to borrowers making different career choices when faced with higher post-graduation interest rates compared to non-borrowers. Similarly, Rothstein and Rouse (2011) find that undergraduate student borrowers from a highly selective university are less likely to choose jobs in lower-paying sectors like government, nonprofit and education. They argue that both credit constraints and psychic costs can explain the observed difference and present some evidence in favor of the former. Using an experiment involving financial aid assignment at a top program, Field (2009) finds that law students' career choices are also sensitive to holding education debt in a way that is consistent with a psychic or social cost of debt. A negative relationship between student debt and household financial stability is found in Gicheva and Thompson (2015), while Brown and Caldwell (2013) use descriptive statistics from the Federal Reserve Bank of New York Consumer Credit Panel/Equifax data set to show that between 2008 and 2012 homeownership rates fell faster for 30-year olds with student debt compared to similarly aged individuals without education loans. In addition, during the same time period holding student loans is associated with lower Equifax credit scores for 25 and 30 year-old individuals.

In this paper I investigate further the ways in which loans for postsecondary degrees affect recent graduates beyond the direct effect of education, and show that the impact is not limited to career choices or observable measures of financial status. Little academic research has been done on the role of student debt on the decision to start a family, in part because the relationship between student debt and marriage is complex.[4] Selection and unobserved heterogeneity are likely confounding factors. I avoid many of the existing empirical issues by using a very homogeneous sample in terms of background and the type of programs respondents enrolled in or considered attending. I use a panel survey of men and women who registered to take the Graduate Management Admission Test (GMAT) between 1990 and 1991. All student loans in these data are accrued for the same type of education (MBA). I find a negative relationship between student loans and marriage outcomes. The strength of the relationship diminishes with age, more so for women than for men. At the median age for the sample (24 years at test registration), the estimated decrease over a seven-year period is between 3 and 4 percentage points per $10,000 in student debt for men and a percentage point lower in absolute value for women. Among younger respondents – those who were 21 years old at test registration – the corresponding decrease in the probability of marriage is 5 percentage points for men and 7 percentage points for women. The broad interpretation of these results is that, conditional on educational attainment, student loans appear to be associated with changes in borrowers' consumption and spending patterns after graduation. I also find that education expenditures and the amount of debt are correlated with anticipated marital status prior to enrollment, even when program quality and alternative funding are held constant, which suggests that decisions about marriage and education investments are most likely made jointly.

The timing of student loans is appropriate for the investigation of the relationship between debt and family formation because it is common for the accumulation of student debt to precede marriage. The reasons for accumulating other types of debt may be related to marriage outcomes in even more complex ways so it would be harder to disentangle all of the confounding factors. For example, credit card debt may be used to pay for wedding expenditures, which would result in a positive relationship between debt and the probability of being married. Medical bills are another common source of debt, and health problems may also have a direct effect on marriage. Additionally, in most cases these loans cannot be discharged in personal bankruptcy.[5] Finally, the data used in this study allow me to investigate a borrowing decision that is fairly uniform across the sample.

2. Conceptual framework

There are several mechanisms that can generate a relationship between student loans and marital status. This relationship can operate through education. Better educated individuals may fare better in the marriage market due to increased earnings potential or differences in preferences.[6] Educational attainment and marriage decisions may jointly reflect exogenous changes in the cost of investing in human capital.[7] Particularly for women, some researchers observe a negative correlation between entry into marriage and educational attainment (Isen & Stevenson, 2010; Long, 2010) or school enrollment (Thornton, Axinn, & Teachman, 1995), but using compulsory schooling laws to instrument for educational attainment, Lefgren and McIntyre (2006) and Anderberg and Zhu (2014) do not find a strong effect of educational attainment on the probability of marriage among women, respectively, in the U.S. or in England and Wales. However, the connection between the timing of marriage and graduate or professional education has not been explored much in the literature.

Conditional on education, post-graduation liquidity constraints can explain the delay in marriage associated with student debt when combined with a fixed cost of marriage. Mira and Ahn (2001) point out that fixed costs, such as housing and household equipment expenditures, may be part of the reason for the negative relationship they find between unemployment and age at marriage.[8] The fixed

[4] Two studies whose findings relate to this topic are Choy and Carroll (2000) and Chiteji (2007). Based on descriptive statistics from the *Baccalaureate and Beyond* longitudinal study of 1992–1993 college graduates and the PSID, respectively, both studies find that student or other types of debt are not correlated with the timing of marriage. Popular media sources such as *The New York Times*, *The Wall Street Journal* and *National Public Radio* have turned their attention to the possible negative relationship between student debt and the rate of marriage (e.g. Pilon, 2010; Lieber, 2010; Ludden, 2012).

[5] Under Title 11, Section 523 of the United States Code.

[6] See for example Oreopoulos and Salvanes (2011).

[7] For example, Goldin and Katz (2002) relate the introduction of the birth control pill to changes in both education and marriage for women.

[8] Wedding expenditures often constitute another component of the fixed cost. A recent article in *The Wall Street Journal* on student debt provides an example: "Zack Leshetz, a 30-year-old lawyer in Fort Lauderdale, Fla., has $175,000 in student loans from his seven years in college and