Lochner, Lance

Article

Student borrowing: Debt, default, and repayment

NBER Reporter

Provided in Cooperation with:

Suggested Citation: Lochner, Lance (2015) : Student borrowing: Debt, default, and repayment, NBER Reporter, National Bureau of Economic Research (NBER), Cambridge, MA, Iss. 3, pp. 19-22

This Version is available at:
http://hdl.handle.net/10419/178712

Terms of use:
Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.
The Role of Liquidity When Capital Markets Collapse

The relation between corporate liquidity and real activity came to the forefront of the academic and policy debate during the global financial crisis. The credit market breakdown started in 2008 and became acute in the spring of 2009. Firms’ inability to obtain external funding allowed researchers to look at corporate liquidity treatment at a time of acute liquidity scarcity.

In the fall of 2008, as the crisis started to unfold, John Graham, Cam Harvey, and I sent out survey questionnaires to thousands of CFOs in 39 countries asking them about their corporate plans for the coming year.1 These data provided us with unique and interesting information about corporate liquidity management, and they revealed that managers thought it was possible to guard against a crash that was about to happen. We found that, in anticipation of a severe liquidity contraction, financially constrained firms were cutting their cash stocks by as much as 15 percent points, compared to only 2 percent points, on average, among financially unconstrained firms. These planned cuts in liquidity were accompanied by other major changes. In particular, constrained firms were reducing their access to bank credit lines. At the same time, the risk of not having access to bank credit lines increased for all firms, with the risk of constrained firms being very high. This analysis shows that corporate liquidity management should not be restricted to the study of corporate cash, but that credit lines can play a fundamental role in insuring firms’ access to liquidity in difficult times.


11. The changing distribution of cumulative debt among U.S. baccalaureate recipients since 1989–90. The fraction of college graduates borrowing less than $10,000, including non-borrowers, declined from over 70 percent to less than 40 percent, while the fraction of college graduates borrowing more than $30,000 rose from 4 percent to 30 percent.3 The steady rise in student borrowing over the late 1990s and 2000s masks the fact that government student loan limits remained unchanged (in nominal dollars) between 1993 and 2008. Adjusting for inflation, this reflects a nearly 50 percent decline in value. In 2008, aggregate Stafford loan limits for dependent undergraduate students jumped from $23,000 to $31,000, although this value was still less than the 1993 limit after accounting for inflation. Not surprisingly, the share of full-time/fall-year undergraduates that maxed out Stafford loans increased more than five-fold from 1989–90 to 2003–04. Undergraduates turned more and more to private lenders to help finance their education prior to the 2008 increase in federal student loan limits and contemporaneous collapse in private credit markets. Undergraduate borrowing from non-federal sources peaked at 25 percent of all undergraduate borrowing in 2009–2010. Along with this increase in private lending, there are reasons for concern that a growing fraction of youth from low-income and even middle-income backgrounds are unable to access the resources they need to attend college.4 At the same time, there are concerns that many recent students are taking on too much debt. Growing levels of debt, coupled with rising labor market uncertainty and the last recession have led to a sharp increase in the share of college graduates between age 18 and 24 in the labor force – after more than a decade of decline. Borrowers who are 25 or older (50 days or more prior to 1998) later on their Stafford student loan payments are consid.
to compare the relationship between family income and college attendance between cohorts completing high school in the early 1980s and early 2000s. Consistent with previous studies, we estimate a weak relationship between family income and college-going for the earlier cohort. However, youth from high-income families in the later cohort are 16 percentage points more likely to attend college than their low-income counterparts, conditional on adolescent achievement and family background — roughly twice the gap observed for the earlier cohort. We further estimate that family income has become an important determinant of attendance at four-year (relative to two-year) colleges.

Uninsured labor market risk can discourage education in much the same way as credit constraints. Youth from low-income families may be unwilling to take on large debts to cover the costs of college when there is a possibility that they might not find good jobs after leaving school. By helping former students weather unexpected adverse labor market outcomes, explicit insurance mechanisms such as government student loan programs help students to default on student loans can substantially affect the demand for credit and education.

Do Some Students Borrow Too Much?

An efficient student lending scheme should yield the same ex ante expected return from all borrowers even if ex post returns differ due to unobservable labor market risk. While the focus of considerable attention, default during the first few years following school provides only a limited picture of lifetime repayment behavior. Personal savings on student loans can substantially affect the demand for credit and education.

Efficient student loan programs must perform a difficult balancing act. They must provide students with access to credit while in school and help insure them against adverse labor market outcomes after school; however, they must also provide incentives for students to report their income accurately, exert efficient levels of effort during and after school, and generally honor their debts. They must also ensure that creditors earn an acceptable rate of return on their loans.

Based on our analysis, we discuss important lessons for the design of efficient student loan programs. For example, efforts to better equate expected repayments across borrowers by linking borrowing limits to observables characteristics and educational choices can improve the efficiency of lending programs and reduce default levels. Integrating the monitoring and collection efforts with other government collections (e.g. Social Security or income taxes) can yield similar benefits.

We underscore the importance of recognizing the response of private efforts to increase student loan programs. More importantly, government

Designing Efficient Student Loan Programs

In our most recent work, Monge-Naranjo and I consider the efficient design of student lending programs in an environment with uncertainty and common market imperfections that limit the extent of credit and insurance. We find that the rising costs and returns of student loans taken out by different types of college graduates. Our analysis simultaneously controls for individual and family background factors, college major, postsecondary institution characteristics, student debt levels, and family support.

Our results reveal considerable differences in ex ante expected losses across borrowers from different backgrounds and across those choosing different college majors. Most notably, race is correlated with student loan repayments. Ten years after graduation, black borrowers owe 22 percent more on their loans, are 9 percentage points more likely to be in nonpayment, and are in nonpayment on roughly 16 percent more of their undergraduate debt than white borrowers. These significant gaps cannot be explained by differences in choice of major, college type, or student debt levels.

While modest in comparison to post-school earnings, there are also important differences in repayment or nonpayment across college graduate types. Part-time students have lower repayments, health, and business programs perform well; humanities and social science majors perform relatively poorly. Differences in default by school type (public, private, for-profit) were insignificant for our sample of college graduates.

Although student debt levels and post-school income are both important determinants of repayment problems, the concordance in default rates can be roughly offset by an additional $10,000 in income — differences in these factors explain surprisingly little of the observed variation in repayment/default rates by race and college major.

While rarely acknowledged, personal savings and family assistance can serve as important sources of insurance for some student borrowers, influencing their post-school repayment behavior. Combining administrative data on student loan amounts and default from the Canada Student Loan Program’s (CSLP) 2011–12 Client Satisfaction Surveys (CSS), Todd Stinebrickner, Utku Suleymanoglu, and I empirically examine the links between a broad array of available resources — income, savings, and family support — and student loan repayment in Canada. More than one-in-four CSLP borrowers in their first two years of repayment were experiencing some form of repayment problem at the time of the CSS. CSLP borrowers earning more than $40,000 per year had repayment rates of only 2 to 3 percent, while borrowers with annual incomes of less than $20,000 were more than ten times as likely to experience a repayment problem. These sizeable gaps remain even after controlling for differences in demographic characteristics, education levels of effort during and after school, and generally honor their debts. They must also ensure that creditors earn an acceptable rate of return on their loans.

Consistent with previous studies, we find that family income transfers accurately offer tangible family-insurance, suggesting that efforts to measure savings and potential family transfers accurately offset tangible benefits.

Can College Students Borrow Enough?

Monge-Naranjo and I document that the rising costs and returns of college, coupled with declining real government student loan limits, make it likely that credit constraints have become more salient in recent years. Indeed, one in three full-time/year undergraduates in 2003–04 exhausted their Stafford loan options. While many students have turned to private lenders for additional credit, the increased supply of private student credit was likely inadequate to satisfy the growing demands of many potential students. For example, private lenders have generally refused to default on student loans; however, private lenders have increased their share of the market.

Evidence on college-going further suggests an important increase in the extent to which credit constraints discourage post-secondary schooling over the 1980s and 1990s. My research with Philippe Belley uses data from the National Longitudinal Surveys of Youth (NLSY) and the National Longitudinal Surveys of Youth (NLSY) to examine the extent to which credit constraints have become more salient in recent years. Indeed, one in three full-time/year undergraduates in 2003–04 exhausted their Stafford loan options. While many students have turned to private lenders for additional credit, the increased supply of private student credit was likely inadequate to satisfy the growing demands of many potential students. For example, private lenders have generally refused to default on student loans; however, private lenders have increased their share of the market.

Evidence on college-going further suggests an important increase in the extent to which credit constraints discourage post-secondary schooling over the 1980s and 1990s. My research with Philippe Belley uses data from the National Longitudinal Surveys of Youth (NLSY) and the National Longitudinal Surveys of Youth (NLSY) to examine the extent to which credit constraints have become more salient in recent years. Indeed, one in three full-time/year undergraduates in 2003–04 exhausted their Stafford loan options. While many students have turned to private lenders for additional credit, the increased supply of private student credit was likely inadequate to satisfy the growing demands of many potential students. For example, private lenders have generally refused to default on student loans; however, private lenders have increased their share of the market.

Evidence on college-going further suggests an important increase in the extent to which credit constraints discourage post-secondary schooling over the 1980s and 1990s. My research with Philippe Belley uses data from the National Longitudinal Surveys of Youth (NLSY) and the National Longitudinal Surveys of Youth (NLSY) to examine the extent to which credit constraints have become more salient in recent years. Indeed, one in three full-time/year undergraduates in 2003–04 exhausted their Stafford loan options. While many students have turned to private lenders for additional credit, the increased supply of private student credit was likely inadequate to satisfy the growing demands of many potential students. For example, private lenders have generally refused to default on student loans; however, private lenders have increased their share of the market.
loan programs that offer similar terms to borrowers of different ex ante risk levels may be undercut by private creditors, leaving government programs with only the riskier borrowers.16


1 Students leaving school with lesser (or no) degrees acquire much less debt as shown by P. Steele and S. Baum, “How Much are College Students Borrowing?” New York, NY: College Board Publications, 2009.


5 Return to text


7 Return to text


9 Return to text

10 Students leaving school with lesser (or no) degrees acquire much less debt as shown by P. Steele and S. Baum, “How Much are College Students Borrowing?” New York, NY: College Board Publications, 2009.


13 Return to text

Determinants of Creativity and Innovation — Evidence from Economic History

Petr Moser

Innovation and creativity are the primary source of improvements in human welfare. Yet, due to two major empirical challenges, it is difficult to determine the factors that encourage creativity and innovation. First, modern settings often lack clean experimental variation, because policies designed to encourage innovation adapt in response to lobbying, which makes it difficult to identify causal effects. Second, innovation and creativity are exceedingly hard to measure. For example, patent counts are the standard measure of innovation, but they fail to capture important innovations that occur outside of the patent system, for example in countries without patent laws. Excluding such developments may distort economists’ views on the determinants of innovation.

My research addresses these identification and measurement challenges by exploiting a wealth of historical events that changed intellectual property laws and other policies independently of changes in innovation. In practice, this research approach combines in-depth analyses of historical records with statistical tests of large data sets. For example, I exploit a large amount of credibly exogenous variation in patent laws in England in the 19th century — before interest groups had begun to lobby for changes in patent policy — to analyze data on innovations with and without patents that were exhibited at world fairs.1 Complementary research uses the Nazi’s decision to dismiss all Jewish scientists to examine the effects of high-skilled immigrant scientists on U.S. innovation.2 Another project exploits variation in the timing of Napoleon’s military victories to examine the effects of copyrights on Italian opera.3

Does Existence of a Patent System Encourage Innovation?

My research addresses a central question in economic history: Has the creation of property rights in ideas encouraged innovation and economic growth? A strong tradition argues that secure property rights built the foundation for the industrial revolution in Britain and the United States.4 Innovation is, however, a cumulative process and strong property rights for early generations of inventors reduce payoffs for those in later generations.5 These costs are particularly severe if patents are broad and their boundaries uncertain, so that later generations are continuously at risk of infringing on existing patents. Recent patent wars over smartphones and tablet computers have moved these issues to the forefront of policy debates, but the underlying tensions are more general. My research exploits historical variation in 19th century patent laws — when countries such as Switzerland and the Netherlands had not adopted patent laws or had abolished them for political reasons — to investigate the effects of patent laws on innovation.6 To measure effects on innovation, I construct historical data sets to capture innovations that occur within and outside of the patent system. Patent data fail to capture all such innovations, which compromises their use in empirical analyses of the effects of patent laws. To address this

Petr Moser

Moser received her Ph.D. in economics from the University of California, Berkeley, and an M.A. in international relations from Yale University. As an undergraduate, she studied economics, with minors in politics and European languages, at the University of Tübingen in Germany and as a Fulbright student at the University of Missouri. Moser grew up in a tiny medieval town in Germany, close to the Moselle Valley, and still enjoys running the local hills. This summer, she and her family moved to Brooklyn, and are excited to explore their new neighborhood, her dog stands and all.