Designing Efficient Student Loan Programs in the U.S.

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Extended Abstract

We study the optimal design of government student loan (GSL) programs when the returns to post-secondary education (PSE) are subject to substantial risk and when incentive and enforcement problems constrain the allocation of credit and its repayment. We consider a lifecycle economy and focus on risks during the early stages of a person's labor market experience.

A major overhaul of existing GSL programs is long overdue in light of the substantial changes in PSE over the past few decades. Rising costs of and returns to PSE, have led to soaring demand for student loans from government and private lenders. Despite expansions in private student lending, there are concerns that a growing share of youth from low- and even middle-income backgrounds are unable to access the resources they need to finance PSE (Lochner and Monge-Naranjo 2012). At the same time, the returns to PSE have become riskier with increases in labor market instability (Gottschalk and Moffitt 2009, Lochner and Shin 2015). Growing levels of per-student debt, coupled with rising labor market risk have led to a sharp increase in American GSL defaults since the onset of the "Great Recession". With aggregate student debt now in excess of $1.2 trillion in the U.S., these trends have sparked fears in the media and government of an impending student debt collapse that could place a heavy burden on the federal budget and impact other sectors of the economy (e.g. housing markets). Altogether, these patterns raise two seemingly contradictory concerns: Can today's PSE students borrow enough? Or, are they borrowing too much? As we have argued elsewhere (Lochner and Monge-Naranjo, forthcoming), both concerns are valid and suggest that current GSL programs are not efficiently designed. Improvements in the GSL program can have far-reaching consequences for current students' PSE choices, the country's aggregate human capital formation, and earnings and wealth inequality for decades to come.

Optimal student loan contracts (public or private) should provide students with access to credit while in school and help insure them against low income realizations after school; however, they must also provide incentives for students to accurately report their post-school income, exert efficient effort during and after school, and honor their loan obligations. Even with efficiently designed contracts, credit market frictions distort behavior leading to under-investment in education and unwanted variability in consumption over time and across earnings realizations (Lochner and Monge-Naranjo, forthcoming).

Recognizing the need to provide greater 'insurance' against adverse post-school labor market outcomes, Canada and the U.S. have recently introduced and are considering expansions of income-based repayment schemes. Unfortunately, almost nothing is known about the best way to design and implement these schemes or about their likely revenue implications.

This study builds on the stylized two-period framework of Lochner and Monge-Naranjo (forthcoming) by developing a more realistic lifecycle framework in order to study dynamic student loan contracts that account for problems associated with moral hazard (e.g. unobserved study or job search effort), limited commitment (or imperfect contract enforcement), and costly income verification. Within this environment, we study how optimal student loan limits should be set as functions of observable borrower characteristics (i.e. factors determining expected returns or labor market risk) and how loan repayments should be structured as functions of current income, past payments, and student debt levels. A rich set of contracts can arise. For example, verification costs can lead to fixed payments at high income levels and income-based payments at lower levels. Default may be efficient during periods of low- to middle-income levels if verification costs are large relative to enforcement costs. Moral hazard limits the amount of insurance that can be provided at any point in time. In a general lifecycle setting, a rich set of instruments becomes available, linking current repayment amounts to past repayments as well as labor market outcomes.

We calibrate our quantitative model based on previous estimates of earnings and employment dynamics (by educational attainment) in the U.S. and using simulated method of moments to match

various moments derived from longitudinal data on American borrowing and repayment behavior from the *Beginning Postsecondary Student Surveys*, *Baccalaureate and Beyond Surveys*, and the *National Longitudinal Surveys of Youth*. These data provide crucial information about the conditions under which different types of borrowers choose to repay their debts, participate in repayment assistance programs (e.g. deferment, forbearance), and default. Together, these outcomes are informative about the nature of verification costs and the penalties imposed on those who default.

Our calibrated model is used to characterize constrained efficient credit contracts and to compare the nature of those contracts with current GSL programs in the U.S. as well as frequently discussed income-based alternatives. We not only compare the contracts themselves, but we also study their implications in terms of borrowing, schooling, and repayment behavior. Our analysis considers both the efficiency of various lending regimes as well as their distributional consequences across ability and wealth groups. Importantly, we discuss general lessons that can be used in the practical development of GSL programs.

References

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