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**Student Loans, College Choice and
Information on the Returns to Higher Education**

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Executive Summary

Key Results. We present the results of a randomized intervention in which we provided college applicants in Chile with information about institution- and field of study-specific earnings and debt outcomes. We assemble this information by linking administrative records of high school, college, and standardized testing records for the population of high school graduates in Chile between 2000 and 2013 to administrative tax records. We accompany our information intervention with surveys measuring baseline earnings and cost expectations as well as preferences over degree programs. We find that students have unbiased but highly variable beliefs about tuition costs, and upward-biased beliefs about earnings outcomes for past graduates of their first-choice degree programs. Poorer students have less accurate information on earnings and costs, and choose degrees with lower predicted returns from the options available to them. The informational intervention does not affect whether students enroll in higher education, but does cause low-SES students to enroll in degrees with modestly higher predicted returns. Consistent with the predictions of a model of choice under imperfect information, these effects are driven by less-informed students and students with less intense degree-specific preferences. Effects of the intervention are close to zero for students receiving state-backed loans, raising concerns about the efficacy of information-based policies as strategies for lowering student loan default rates and encouraging sound financial education decisions.

Background and Motivation. Federal student loans and grants are a key component of the policy effort to expand access to higher education for students from low-income backgrounds. In the context of rising default rates, policy makers and economists

hypothesize that such students may choose lower-return, higher-cost degrees based on poor information and marketing by higher education institutions, limiting the benefits of higher-education to those whom loan subsidies are meant to help.

To reduce high default rates and limit misleading information from institutions competing for these students, policymakers have focused on two types of solutions. Demand-side interventions focus on improving education decisions by providing government-compiled and disseminated information on academic, labor market, and financial outcomes for different degree programs. Supply-side regulations directly limit subsidies available to students enrolling in degree programs with a history of poor academic and/or labor market outcomes. (In the US, proposed gainful employment rules encompass both types of policies discussed here.) How effective these policies are at promoting higher-return educational investments depends on how much students already know about academic and financial outcomes at different degree programs, how much students care about these outcomes when making their choices, and how effectively the government designs and communicates new information for college applicants.

Study Design. We present the results of a randomized intervention in which we provided college loan applicants in Chile with information about institution- and field of study-specific earnings and debt outcomes, directly testing a demand-side intervention in Chile's higher-education market. Chile is a middle-income, OECD member country with a higher education system that resembles the US in terms of completion rates, market structure, and public subsidy rates through federal student loans. We worked closely with a number of Chilean government agencies to develop linked student records of high school graduation, college enrollment, standardized test scores for the population of Chilean high school graduates between 2000 and 2013. We then matched these records to administrative tax data.

We administered a survey and field experiment in partnership with the Ministry of Education (MINEDUC) as part of the 2013 student loan application process. Directly following application submission, students applying for subsidized loans were sent an email from MINEDUC requesting that they log into a secure website to fill out an additional set of questions about their enrollment plans and their expectations for earnings and tuition costs for themselves and typical graduates from their planned enrollment degree. A total of 49,166 students completed the intervention.

Upon completing the survey, a randomly-selected treatment-group of students were shown information on actual earnings gains (versus no tertiary enrollment) in monthly terms, tuition costs in monthly payments, and a "net value" which was the difference in monthly gains and payments in pesos. Costs and benefits were amortized over the fifteen-year loan repayment term. They were shown expected gains from searching, and allowed access to a searchable database which, upon selecting a major and an entrance exam score, populated a table of relevant enrollment options sorted in descending order by net value. We track treatment and control students in the administrative data to see whether and where they chose to matriculate.

Empirical Results. We find that most students, and particularly low-socio-economic-status (SES) students, have very limited knowledge about earnings and cost outcomes associated with different degree programs. We show that these knowledge gaps are reflected in enrollment decisions. Using our extensive data we show that low-SES students systematically choose degrees that yield lower-expected-returns conditional on background and ability than high-SES students, consistent with the idea that low-income students are not fully informed and appear to make financially worse educational investments decisions.

We analyze the results of our information experiment. Low-SES students are harder to reach; they have lower response rates. We find that the treatment effect of information on degree choice is positive and significant among low-SES students. The effect (intent to treat) is relatively small, increasing net value of the enrolled degree by 7% of potential gains. In line with predictions, information has larger effects for students who have less information on earnings and cost and who exhibit lower levels of pre-intervention preferences for a given degree. Among these subgroups of low-SES students, effect sizes are roughly twice as large.

Importantly, we find that treatment effects are strongest among low-SES students who *do not* receive federal student loans (which are merit and need based and not caused by treatment). Among applicants qualifying only for non-selective technical institutes, private universities and professional degree programs, treatment effects are positive and significant and large *only* for those who *do not* receive a loan. Given that this area is one where education returns are possibly negative (earnings gains do not justify costs), our results suggest that information may not be helpful in nudging loan takers to make wiser educational investment choices.

Finally, we find that in all cuts of the data, gains in the predicted net present value of the chosen degree are generated by higher returns rather than lower tuition costs, suggesting that demand response to information could chase returns estimates rather than put pressure on tuition, even if costs and earnings gains presented separately. Both results may be due to lack of financial literacy and poor understanding of loan terms measured in other surveys we conducted of student loan takers (Hastings et al. 2014).

These findings suggest that simply providing information on returns by institution and degree is unlikely to substantially help those most in need – those from low-income households and those taking out personal student loans to finance their higher education investments. It is unlikely to discipline tuition. Alternatively, if designed correctly, earnings-based caps on student loans can provide a similar impact to effective information by forcing students to pay attention to the potential costs and benefits of their planned educational investments. Finally, our findings suggest that better college preparation for low-income students may be a more fruitful path for increasing economic and educational opportunity.