



(Un)informed college and major choice: Evidence from linked survey and administrative data[☆]



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ABSTRACT

We use large-scale surveys of Chilean college applicants and college students to explore the way students form beliefs about earnings and cost outcomes at different institutions and majors and how these beliefs relate to degree choice and persistence. Linking our survey records to administrative education and earnings data, we compare earnings and cost expectations to observed values for past students and follow survey participants forward to see how beliefs relate to matriculation and dropout outcomes. We find that students have correctly centered but noisy cost expectations, and appear to systematically overestimate earnings outcomes for past graduates. Students who overestimate costs are less likely to matriculate in any degree program and in their stated first-choice program, and are more likely to drop out. Students who overestimate earnings matriculate at similar rates to other students, but choose degree programs where past students have been less likely to graduate, have earned less early in their careers, and have been more likely to default on student loans. Consistent with an informal model of enrollment choice, students with a stated preference for labor market-related degree characteristics are less likely to overestimate earnings outcomes and choose degrees where past students have gone on to earn more, while the opposite is true for students with a stated preference for enjoyment of the curriculum.

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1. Introduction

A growing body of evidence suggests that academic, labor market, and cost outcomes for postsecondary students vary widely by institution, field of study, and degree level (Altonji, Blom, & Meghir, 2012; Beyer, Hastings, Neilson, & Zimmerman, 2015; Deming, Goldin, & Katz, 2012; Goodman,

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Appendix available at http://www.justinehastings.com/images/downloads/HNZ_UninformedChoice_Appendix.pdf

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Hurwitz, & Smith, 2015; Hastings, Neilson, & Zimmerman, 2013; Hastings, Neilson, & Zimmerman, 2015; Kirkeboen, Leuven, & Mogstad, 2014; Reyes, Rodríguez, and Urzúa, 2013; Zimmerman, 2014). An implication of these findings is that whether or not students make informed and forward-looking choices about what to study and where may have large effects on the public and private returns to higher education.

This paper uses large-scale surveys of Chilean college applicants and college students to explore the way students form beliefs about earnings and cost outcomes at different degree programs and how these beliefs relate to degree choice and persistence. We administered the surveys in 2011 and 2012 as part of the college application process and college student bus pass application process. A total of 39,154 students participated in the surveys, which were implemented through an online web application in partnership with the Chilean Ministry of Education (Mineduc) and standardized testing authority (DEMRE).¹ Respondents included students from a broad range of socioeconomic backgrounds and academic achievement levels. The surveys measure financial literacy, loan literacy, information sources, knowledge about earnings and cost fundamentals, and stated reasons for application plans. In addition, we link our survey records to administrative records of college enrollment (as described in Beyer et al. 2015; Hastings et al., 2013, 2015). This link allows us to provide descriptive evidence on the relationship between beliefs about earnings and costs at the time of college entry and academic outcomes such as matriculation, college choice, and dropout.

We use these data to evaluate predictions generated by an informal model of enrollment choice. In the model, students applying to college face uncertainty about earnings and cost outcomes at different degree programs (defined here at the institution-major level). Students may choose to alleviate this uncertainty through costly, degree-specific search. Remaining uncertainty about degree attributes is reduced when a student enrolls in a degree program and is able to learn more about it. Model predictions include the following: a) students facing higher search costs, such as those from college-inexperienced backgrounds, should have less accurate beliefs about program attributes, b) students who do not place much value on financial outcomes when making college choices should have less accurate beliefs about those outcomes, c) students may know very little about desirable degree choices outside of their consideration set, and d) students with inaccurate expectations about earnings and costs should be more likely to enroll in degrees where past students have fared poorly in those dimensions, and more likely to drop out when the uncertainty is resolved.

Our main results are as follows. When asked about the degree programs to which they are most likely to apply, students have noisy expectations about program costs. These expectations are centered on actual cost values. However, students tend to overestimate earnings outcomes for past graduates at their top choice degree programs. On average, students overestimate early-career earnings outcomes for

past graduates of their stated top choice by 39.3%; one quarter of students overestimate this value by at least 63.3%. Consistent with model predictions, students from low-SES backgrounds have less accurate expectations than other students. Students in all groups tend to believe that their own earnings outcomes conditional on graduating will be similar to outcomes for past graduates. Also consistent with model predictions, students claim little knowledge of high-earning degree programs outside their field of interest.

We next estimate regressions that relate expectation errors to schooling outcomes, controlling for student SES, gender, and test scores. We find that students who overestimate costs by at least 25% are 5.5 percentage points less likely to matriculate in any degree program (off a base rate of 81.4%), 7.7 percentage points less likely to matriculate in their stated first choice degree program (off a base rate of 22.0%), and 3.3 percentage points more likely to drop out after their first year of enrollment (off a base rate of 5.3%). In contrast, the accuracy of earnings expectations does not predict whether students enroll or, conditional on enrolling, drop out. Instead, students who overestimate earnings outcomes tend to choose degree programs characterized by lower earnings, higher student loan default rates, and lower graduation rates for past students. Though these findings are descriptive, they are broadly consistent with the idea that beliefs about earnings and costs are important determinants of matriculation and persistence outcomes, and may also affect earnings outcomes over the longer run.

Why do some students have inaccurate beliefs about earnings and costs? We explore this question using our survey data on information sources and preferences for different degree attributes. We first describe how preferences and information sources vary by student background. We find that students from low-SES backgrounds are more likely to rely on advertising and publicity and less likely to rely on in-school sources than students from high-SES backgrounds. High-performing students are more likely to rely on government websites providing information about degree programs and less likely to rely on publicity and advertising. In terms of preferences over different degree attributes, low-SES students are more likely to cite costs and financing as key priorities, while high-SES students are more likely to cite an interest in the curriculum.

Students' stated preferences predict expectations and choice outcomes. Conditional on gender, SES, and test scores, students who focus on earnings or employment outcomes are 3.6 percentage points less likely to overestimate earnings by at least 25% (compared to a mean rate of 43.6%), and choose degree programs with higher earnings for past students. There is little relationship between a preference for earnings or employment and matriculation or dropout outcomes. In contrast, students who claim a strong interest in course curriculum are 3.2 percentage points more likely to overestimate earnings by at least 25%, and choose degree programs with lower earnings outcomes for past students. Sources of information are in general weakly related to matriculation and degree choice outcomes. One exception is that students who cite government websites as a source of information tend to have more accurate earnings expectations, and choose degree programs characterized by lower default rates.

¹ Other papers resulting from this partnership are Hastings, Neilson, and Zimmerman (2013), Hastings et al. (2015), and Beyer et al. 2015. The surveys described here helped inform the design of HNZ (2015). See below for a description of how this paper builds on previous work.

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