

Three Essays in Labor and Education Economics

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Chapter 1: Schooling, Experience, Career Interruptions and Earnings

In this paper, I investigate how the interaction between schooling and work experience affects earnings. Different from the existing literature, in the construction of the experience variable I distinguish working and non-working periods after a worker leaves school. This distinction is important because, as demonstrated in the paper, the *potential experience* variable typically used in the previous literature produces a greater bias to the returns to experience for more educated workers. The empirical results using accurate measures of work history are remarkably different from those in the existing literature. Using different estimation strategies, I consistently find that more educated workers have a higher wage increase with actual experience but suffer a greater wage loss after unemployment periods. These results are robust to different specifications of the earnings equation and estimation methods.

Given the novelty of these findings, I propose a model that can rationalize the empirical results of the paper. In the model, high ability workers have greater returns to human capital. In addition, employers have imperfect information about workers and use past unemployment in the prediction of their unobservable quality. Under these assumptions, the model predicts that educated workers have a higher wage growth with experience but face greater wage losses with unemployment.

Chapter 2: Employer Learning, Statistical Discrimination and University Prestige, with Paola Bordón

This paper investigates whether firms use university prestige to statistically discriminate among college graduates. In order to perform a statistical discrimination test, we rely on the employer

learning literature. This literature suggests that if firms use a characteristic for statistical discrimination, this variable should become less important for earnings determination as a worker gains labor market experience.

In this framework, we use a regression discontinuity design to estimate a 19% wage premium for recent graduates of two of the most selective universities in Chile. However, we find that this premium decreases by 3 percentage points per year of labor market experience. These results suggest that employers use college selectivity as a signal of workers' quality when they leave school. However, as workers reveal their productivity throughout their careers, they become rewarded based on their true quality rather than the prestige of their college.

Chapter 3: Recruitment of Foreigners in the Market for Computer Scientists in the US, with John Bound, Joseph Golden, and Gaurav Khanna. Revised and Resubmitted to the Journal of Labor Economics.

This paper presents a dynamic model that characterizes the labor market for computer scientists. Unlike traditional models for scientists and engineers, in our model firms can incur costs to recruit foreigners who are potentially more productive (or relatively less paid) than US workers. We calibrate the model using data from the 1990s (the internet boom) to the early 2000s (a slump in the industry). Using the calibrated model, we conduct counterfactual simulations where firms have limits on foreign recruitment. For a range of labor demand elasticities, our simulations suggest that wages for computer scientists would have been 2.8-3.8% higher, and the number of Americans employed as computers scientists would have been 7.0-13.6% higher in 2004 if firms could not hire more foreigners than in 1994. In contrast, total CS employment would have been 3.8-9.0% lower, and consequently output smaller if firms had these restrictions on foreign recruitment.