

Who goes to graduate/professional school? The importance of economic fluctuations, undergraduate field, and ability[☆]

Kelly Bedard^{a,*}, Douglas A. Herman^{b,1}

^a*Department of Economics, University of California, Santa Barbara, CA 93106-9210, USA*

^b*Federal Trade Commission, Bureau of Economics, 601 New Jersey Ave., NW, Washington, DC 20001, USA*

Received 25 August 2005; accepted 15 September 2006

Abstract

This study examines the impact of fluctuations in entry-level labor market conditions on the graduate school enrollment decisions of newly minted undergraduate degree holders. Using repeated cross-section data for recently graduated science and engineering undergraduates from the National Survey of Recent College Graduates, and state-level unemployment rates to measure entry-level labor market conditions, we find that advanced degree enrollment patterns vary across the business cycle by undergraduate major, GPA, gender, and advanced degree type.

© 2007 Elsevier Ltd. All rights reserved.

JEL Classification: I21, I23

Keywords: Graduate school; Business cycles

1. Introduction

There is a substantial literature examining the impact of the business cycle on the decision of individuals to complete high school and enroll in college in the USA (examples include Berger & Kostal, 2002; Betts & McFarland, 1995; Black & Sufi, 2002; Card & Lemieux, 2000; Corman, 1983;

Dellas & Koubi, 2003; Dellas & Sakellaris, 2003; Gustman & Steinmeier, 1981; Kane, 1994; Lehr & Newton, 1978; Light, 1996; Neumark & Wascher, 1995; Sakellaris & Spilimbergo, 2000).² In general, these studies find that enrollment in high school and college increases when the unemployment rate rises. In other words, enrollment appears to be counter-cyclical. Exceptions to this finding include Corman (1983), Kane (1994), Card and Lemieux (2000), and Berger and Kostal (2002), none of which find a statistically significant impact of unemployment rates on college enrollment. However, Kane (1994)

[☆]The use of NSF data does not imply NSF endorsement of the research methods or conclusions contained in this paper.

*Corresponding author. Tel.: +1 805 893 5571; fax: +1 805 893 8830.

E-mail address: kelly@econ.ucsb.edu (K. Bedard).

¹The views expressed in this paper are those of the author and do not necessarily represent the views of the Federal Trade Commission or any individual Commissioner.

²There is a similar literature examining the impact of the business cycle on the enrollment of individuals age 15–22 in the UK (see Pissarides, 1981, 1982; Rice, 1987, 1999).

does find that college enrollment is lower when manufacturing wages are high, a likely employment option for non-college-bound high school graduates.

While we are aware of several descriptive editorial/review articles that discuss the impact of the business cycle on graduate/professional school enrollment (examples include Ellis & Mulvey, 1993; Farrell, 2001; Leatherman, 2001; Mangan, 2001, 2002; National Center for Education Statistics, 1996), we are aware of no econometric study that examines the impact of the business cycle on advanced degree enrollment.³ This is somewhat surprising since the cost of graduate education, in terms of lost wages, is much higher than for high school or undergraduate education, and hence potentially more seriously impacted by economic fluctuations. To the best of our knowledge, only two recent papers include graduate enrollment in their samples, Light (1996) and Dellas and Koubi (2003). While both studies find that enrollment increases during economic downturns, neither estimates the effect of the business cycle separately across education levels. As such, it is impossible to determine whether economic conditions differentially impact associate, undergraduate, or graduate degree enrollment decisions.

We view the general absence of empirical research regarding the impact of economic contractions on advanced degree enrollment as important for two related reasons. First, because a substantial fraction of the population now hold advanced degrees, variation in the number of degree holders due to cyclical enrollment patterns may impact the wage structure across cohorts of highly educated workers.⁴ Secondly, individuals with different educational backgrounds or ability levels may be induced to enroll in advanced degree programs during different phases of the business cycle leading to inter-cohort skill differentials even within narrowly defined education categories. For example, if during recessions firms reduce the number of high-quality entry positions for ‘talented’ undergraduate degree (B.Sc.)⁵ holders, then talented individuals will be

more attracted to advanced degree programs. On the other hand, if during recessions ‘good’ entry-level jobs continue to exist, but firms reduce the number of ‘average’ or ‘low-end’ entry-level positions, then recessions will have a bigger impact on the decision to enroll in advanced degree programs for less-talented individuals. It is, of course, also possible that economic contractions encourage all types/ability B.Sc.’s to enroll in advanced degree programs. Given the wide range of possibilities, the scenario that best describes reality is an empirical question.

We use data from the 1993–2001 National Survey of Recent College Graduates (NSRCG) and variation in state-level unemployment rates to explore these issues. Specifically, this study focuses on two questions: (1) How big is the ‘recession effect’ relative to the other determinants of advanced degree enrollment? (2) What types of students, as measured by B.Sc. major and GPA, are more likely to enroll in advanced degree programs because they finished their B.Sc. during an economic contraction?

The results indicate that among science and engineering B.Sc. earners, advanced degree enrollment patterns vary across the business cycle by gender, GPA, and advanced degree type. In particular, male Ph.D. enrollment is counter-cyclical, male Master’s degree enrollment is procyclical, and female enrollment is generally acyclical across all advanced degree types. Further, there is some evidence that the counter-cyclicity of male Ph.D. enrollment is driven by business cycle responses among high-GPA students, and physical science, life science, and computer science and mathematics majors.

The remainder of the paper is as follows. Section 2 lays out a simple model of the impact of the business cycle on educational decisions. Section 3 describes the data. Section 4 details the empirical approach. The results are presented in Section 5. Section 6 concludes.

2. A simple theoretical framework

To motivate the empirical analysis, in this section we present a very simple and highly stylized human

³There is, however, a related literature examining the characteristics of individuals who choose to attend graduate/professional school. See Ehrenberg (1992) for an excellent review of this literature up to 1992, and Black and Sufi (2002), Groen & Rizzo (Forthcoming), and Perna (2004) for more recent studies.

⁴According to the US Census Bureau, Population Division, & Education and Social Stratification Branch (2004), as of 2004, 10 percent of the 25+ year-old population hold a Master’s, professional, or Doctorate degree.

⁵For expositional ease, throughout the paper we use B.Sc. to refer to all undergraduate degree holders, whether their degree is in the Arts, Fine Arts, Sciences, and so on. This acronym is used because our sample is restricted to science and engineering students (see Section 3).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات