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The wage effects of not-for-profit and for-profit certifications: Better data, somewhat different results ☆

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HIGHLIGHTS

- Most certificates from for-profit and non-profit institutions do not raise earnings.
- There are generally large returns to Associate's degrees.
- Differential returns across institution types are not statistically significant.
- Point estimates suggest smaller gains from certificates at for-profit institutions.
- Variation across area of study is more important than between institution types.

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ABSTRACT

Using the Beginning Post-Secondary Student Survey and Transcript Data, we find no statistically significant differential return to Certificates or Associate's degrees between for-profits and not-for-profits. Point estimates suggest a slightly lower return to a for-profit Certificate and a slightly higher return to a for-profit Associate's degree, largely because more students at not-for-profits earn a BA, making them less likely to have only an Associate's degree. There is considerable variation in the return to Certificates/degrees across majors, including many with negligible or negative returns. Differences across fields are large relative to differences across institution types.

1. Introduction

Critics of for-profit universities charge that these institutions recruit unqualified students in order to obtain their federal student aid and provide these students with little benefit. Indeed, in 2009, students at for-profit institutions accounted for nearly half of student loan defaults (Federal Student Aid Data Center, 2012a), but only about 11% of post-secondary students (National Center for Education Statistics, 2011a). Total funding received by for-profit post-secondary institutions under Title IV in 2010–2011 was more than 32 billion dollars, about 20% of total Title IV funds (Federal Student Aid Data Center, 2012b; US Department of Education, 2011). Proponents, in contrast, argue that for-profit institutions educate non-traditional students who would not otherwise attend college and who therefore benefit from their existence. They maintain that the large quantity of loans and defaults reflects the efforts of for-profit institutions to serve this under-served group.

Using a rich data set, we examine the labor market return to Certificates and/or Associate's degrees, which we refer to collectively as certifications, and ask whether these returns differ between for-profit and not-for-profit institutions.[1] Estimating differential returns is challenging. Since students who enter for-profit institutions tend to be disadvantaged, their poorer labor market performance after completing their education may reflect our inability to control adequately for pre-entry differences. Therefore we compare the difference in earnings between certification completers and non-completers across institution types. If the difference in earnings between certification completers and non-

☆ This topic was brought to our attention by Jesse Felix whose excellent undergraduate research opportunities project was, to the best of our knowledge, the earliest use of the Beginning Post-Secondary Students survey to examine differences in financial and labor market outcomes of students at for-profit and other institutions. We regret that data access restrictions prevented him from working with us on this new project. We are grateful to Steve Erlebacher, Jeff Strohl, two anonymous referees and participants in the Boston University empirical microeconomics workshop for their helpful comments and suggestions. The usual caveat applies.

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[1] In this paper, not-for-profit institutions include both public institutions and private, not-for-profit institutions.

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completers is similar across institution type, lower earnings of for-profit certification completers are more likely to be explained by pre-entry differences than by institution type. If the earnings of certification completers relative to non-completers are lower at for-profit institutions, this suggests lower returns to for-profit certifications. This conclusion requires that any ability (or other) bias affecting the measured return to certification be similar across institution type. To further account for pre-entry differences in background, we present propensity-score-weighted regressions.

We find no statistically significant differential return to certification from for-profit institutions. However, the point estimate of the differential return is non-trivially negative for a for-profit Certificate and non-trivially positive for a for-profit Associate's degree. Much of the latter difference reflects the greater tendency of strong students at not-for-profits to continue to a BA, leading to differential selection into the Associate's-degree-only group.

Controlling for major does not eliminate these differences. Nonetheless, the variation across major in the return to certifications is large relative to the for-profit/not-for-profit differential. The return to Certificates in business, health fields (except Licensed Practical Nursing), and human services is small or negative, while the return to a Certificate in vocational fields is positive. In contrast, the return to an Associate's degree in business and health fields is very large, while small or negative in vocational fields, liberal arts and sciences, and human services.

The for-profit differential is identified mainly through majors with many students at both institution types. The possibly higher return to an Associate's degree from a for-profit than from a not-for-profit, therefore applies only to majors served by both sectors. Many not-for-profit majors are concentrated in Registered Nursing, a very high pay-off major that is nearly absent from for-profit colleges in our data.

Further, students starting Associate's degrees at not-for-profits are more likely to pursue a Bachelor's degree. If the best students go on to Bachelor's programs, the top of the skill distribution will be missing from the not-for-profit Associate's degree estimates. These students will either be classified as having a BA or missing from the data if they are still enrolled.

There is a small literature analyzing the for-profit post-secondary education sector. This paper is an updated version of Lang and Weinstein (2012), which utilized the survey but not the transcript data from the Beginning Post-Secondary Student Survey. The transcript data differ considerably from the survey responses and provide more detail about majors. Of the individuals with both survey and transcript data, approximately 4% have survey responses conflicting with transcript data on whether they started in a Certificate program. Similarly, approximately 15% have survey responses conflicting with transcript data on whether they started in an Associate's degree program. A more detailed comparison between the survey and transcript data is included in Appendix Tables 1 and 2. While the results in this paper do not differ dramatically from those in our earlier paper, they are considerably more nuanced. Since the earlier paper received considerable press coverage for its generally negative conclusions about for-profits, we believe that it is important to signal that these results are somewhat different and have titled the paper to reflect this.

Using the NLSY97, Cellini and Chaudhary (2012) find some evidence that the returns to an Associate's degree from a for-profit are higher than those from a public institution. They do not consider certificates, an important educational offering at for-profit post-secondary institutions. In our sample, more than 60% of students enrolled at for-profit institutions are in Certificate programs. Chung (2008) uses NELS88 which has a sample of only 157 respondents enrolled in either Certificate or Associate's degree programs at for-profit colleges. She finds that, after controlling for selection, obtaining a for-profit certificate results in 141 to 158% higher earnings compared to those who have selected into the for-profit sector but do not complete any certification. Using administrative data, Turner (2011) finds a larger earnings increase after enrollment in two or four year not-for-profit institutions compared to for-profit institutions. However, the data are limited to enrollment and do not contain information on certification.

Deming et al. (2012) find that comparable students who enroll at for-profits are more indebted but more likely to obtain some qualification, most notably certificates and, more modestly, Associate's degrees, although less likely to obtain a Bachelor's degree. They have lower average earnings in part due to lower employment rates. Their paper is deliberately exploratory and considers returns to enrollment, and not to certification. Thus it asks whether, controlling for differences in observables, individuals who enroll in for-profits have better or worse outcomes than those who enroll in not-for-profits but does not ask whether there are differential benefits to completing the programs, the focus of this paper.

The paper proceeds as follows: We begin with a brief introduction to the relevant institutions. Those readers who are familiar with post-secondary education in the United States can skip this section. Section 3 discusses the methods. Section 4 describes the data. Section 5 contains the results. Section 6 presents robustness checks, and Section 7 concludes.

2. Institutional background

We limit our discussion to post-secondary institutions accredited by an agency recognized by the US Department of Education. Post-secondary institutions in the United States may be public, private but not-for-profit, or private and for-profit. Public institutions typically receive direct funding from the state in which they are located but generally also raise significant funds through tuition and other sources. In the period that we study, on average 30% of their funding came from government appropriations and grants for nonoperating activities (National Center for Education Statistics, 2011b).[2] Public universities are usually governed by a board of trustees, some of whom are appointed by the state government, for example by the governor or the legislature. Not-for-profit institutions are also generally governed by a board of trustees; however, this board is not appointed by government officials, or subject to their approval. They do not receive appropriations from government sources although they may occasionally receive funding for certain operating or nonoperating activities. In general, public institutions charge lower tuition and fees than their not-for-profit analogs.

The principal difference between for-profit and not-for-profit private institutions is that not-for-profit institutions cannot distribute profits to those who control them (Hansmann, 1996) but must distribute them in other ways, such as improving buildings and classrooms or by avoiding profits through lower prices. In the United States, not-for-profit educational institutions are generally exempt from corporate and property taxation, donations are tax deductible for the donor, and they have access to tax-exempt bond financing.

In contrast, for-profit institutions can generate and distribute profits and can therefore use equity financing. Economists generally model private firms as maximizing profit, and thus expect that for-profit institutions should choose admissions, education quality and other practices to do so. In principle, public and not-for-profit institutions maximize some other objective, perhaps one that depends on the number of students served and the net benefit they receive.

This could lead to very different behavior between for-profit private institutions, on the one hand, and public and not-for-profit institutions, on the other. However, competition with the non-profit sector might constrain for-profits to behave similarly to non-profits. Alternatively, the objectives of the non-profits might lead them to act very much as if they were maximizing profit. Other combinations are also possible. Pressure from equity holders might lead for-profits to operate more efficiently and thus avoid expenditures on famous professors who do not

[2] Non-operating activities of a university are those which do not provide goods and services.