

The Link from Graduate Education in Economics to the Labor Market

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The Siegfried and Stock paper represents the first systematic effort to examine the labor market outcomes for new economics Ph.D. recipients. Interestingly, the impetus for this project seems to have originated from outside rather than inside the profession, being part of a larger project initiated by the Commission on Professionals in Science and Technology of the American Association for the Advancement of Science. The authors are to be commended for following up on this opportunity and adding to our limited knowledge about how the labor market operates for new entrants to the profession.

While individual economists have examined particular dimensions of this labor market, the profession as a group has given relatively little attention to a labor market it is uniquely situated to study. A quick review of past issues of the *American Economic Review* “Papers and Proceedings” indicates how infrequently any systematic attention is given to the economists’ labor market. Over the course of my professional career, this is only the fourth set of such published papers; the earlier papers appeared in May 1962, May 1971, and May 1979.

Why there has been so little attention to this labor market is perplexing. After all, this labor market is one that economists all know quite well. The study of academic labor markets is a natural area of inquiry for many labor economists. Economists are plugged into labor market data and know how to use them to good effect. Many economists are skilled in gathering through survey questionnaires data of the kind reported here, and economists may be more likely than other academics to respond to questionnaires asking about their labor market experiences. In addition, economists as a group demonstrate an ever-growing interest in the economics and the sociology of the profession.

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A key problem has been the lack of strong interest by the American Economic Association in encouraging such investigations. As a result, individuals have had to proceed on their own. Perhaps this is the way it should be. On the other hand, research on the labor market for Ph.D. economists might help identify market imperfections that could be remedied through the actions of individual departments, faculty members, and advanced graduate students about to enter the labor market. Equally important, such research could pinpoint ways of improving the education and training of future Ph.D. recipients.

With this as background, I want to discuss the links between the Ph.D. labor market and graduate education. The reason should be apparent. The results reported in the Siegfried-Stock paper are conditioned in considerable part by the nature of the education and training graduate students receive, as well as by the interplay between their training and the labor market they face as new Ph.D.'s.

Siegfried and Stock begin with a profile of graduate training shown in Table 1, updating the profile published in the report of the American Economic Association's Commission on Graduate Education in Economics (Hansen, 1991). Their interpretations of changes in the profile over the past two decades make considerable sense: shifts in the gender composition and national origin of Ph.D. recipients, continued softening in the academic labor market (which may have been abetted by the increased number of degree recipients), the rising share of employment in the business sector, steady growth in opportunities for postdoctoral study, continued declines in first-year graduate students, plus a likely future decline in Ph.D. recipients stemming from the drop in undergraduate economics majors.

Their explanation for the rise in the "median years of registered time to Ph.D." is less satisfying. They state: "The longer time in school may reflect a soft labor market, in which employers can demand more progress on the dissertation before hiring someone and graduate students may choose to remain in graduate school in the face of discouraging job prospects." This answer has considerable plausibility. But since the labor market has been soft for a considerable time, how much of the increase can be explained by this softness?

An examination of their updated data, supplemented by additional data from published reports of the Doctorate Records Project, shows that registered time rose from 5.5 years in 1976, to 6.3 years in 1986, and to 6.8 years in 1996.¹ This increase is striking, particularly for economists of my generation who on average finished in less than 5 years; registered time was 4.8 years in 1967, and a decade earlier, for the 1958–60 period, it was 4.7 years.

This increase in registered time is not unique to economics. Indeed, the increase for economics parallels that for all Ph.D. recipients and for most of the major disciplinary groupings, like physical sciences, life sciences, engineering, and so on. Among the possible explanations for the pervasive increase is that the rapid growth of knowledge requires greater amounts of direct instruction and poses

¹ These data come from annual reports of the DRP, including the most recent (Henderson, Clarke and Woods, 1998).

research questions that are more difficult to answer. Another explanation is that the more research-oriented faculty in academe may now be insisting on higher standards of performance in Ph.D. work.

Two other explanations deserve mention. One is that graduate students at research universities are such an important input to faculty research, especially with the growing importance of research in tenure and salary decisions, that no strong institutional interest exists for slowing or rolling back the rise in registered time to degree. The other is that as competitive pressures have steadily reduced faculty teaching loads, graduate students are more important than ever in maintaining a viable undergraduate teaching program.

At the individual level, limited financial support for graduate students no doubt means that more of them must work for pay, thus slowing their academic progress. An offsetting factor is the apparently greater willingness of parents and spouses to provide financial support, augmented by the ability to borrow under student financial aid programs.

Since these conditions vary among different disciplines, as do the conditions of their respective academic labor markets, we would expect to see some differences in and changes in registered time by discipline. For example, in engineering, which as Richard Freeman suggests in this issue is in some sense comparable to economics in the kinds of students it attracts and the salaries it offers, registered time in 1996 was 0.4 years lower than in economics. This difference exists even though the percentage of new engineering doctorates still seeking positions was higher (33.9 percent in engineering as compared to 28.4 percent in economics). Moreover, since 1976, registered time in engineering rose by only 0.8 years as compared to 1.3 years for economics. Thus, it appears that the upward drift in registered time and variations in it are more complicated than the authors suggest.

One cannot help but wonder whether some part of this steady upward drift in registered time to the Ph.D. degree might be described as “unproductive” time on the part of both faculty and students. It is not evident that we have any good models of “best practices” that would help speed the degree completion process. Among such practices are the following: getting students started on research earlier in their graduate work (Hansen, 1991), more closely monitoring student progress through Ph.D. programs, encouraging faculty dissertation supervisors to provide timely feedback on dissertation proposals and chapter drafts, limiting the time students can receive financial support, and increasing stipends so that students can reduce their need to work for pay.

Whatever the answer in the case of economics, the increase in registered time over two decades (1976–96) represents well over a year of additional opportunity cost; the increase over three decades (1967–96) represents two extra years of opportunity cost. At an annual median salary of \$55,000 in full-time employment shown in Table 3, these increases in registered time entail substantial amounts of foregone earnings.

How these opportunity costs are viewed by prospective Ph.D. recipients is not clear. Graduate students are regularly advised that they must be well along with

their thesis and have a reasonably well-polished job market paper ready before they enter the market. However, I have also heard graduate students casually say they are thinking of staying around for another year. When I mention the magnitude of the opportunity costs involved, they are brought up short; they seem to have forgotten this most fundamental concept in human capital investment, unless, of course, they are married with several children to feed. But with marriage and family formation occurring perhaps as much as a half-dozen years later than in the 1950s and 1960s, the press of opportunity costs may be weaker than in the past.

The time to degree problem may not be as severe as the Doctorate Records Project data suggest. The Siegfried and Stock survey shows the median time to degree as 5.3 years (Table 4) against the median of 6.8 years of registered time to degree in the DRP data. This gap of 1.5 years is perplexing. A closer reading of the definition of “registered time” indicates that it refers to the time a doctoral recipient is registered as a student since the bachelor’s degree, including registered time at other institutions. The Siegfried and Stock data, by contrast, apparently refer to the time spent at the institution granting them their Ph.D. This interpretation does not resolve the puzzle, however. Are economics doctorates who remain at a single institution spending more time obtaining their degrees now than they did earlier? If we go back to the 1960s, the answer would appear to be “yes.” Are more new doctorates now spreading their study over at least two institutions, perhaps obtaining a master’s degree at another institution first? This seems like a reasonable explanation but we do not know. One clue is provided by the experience of the ever-growing proportion of international students, many of whom enter graduate economics programs only after having completed a master’s degree elsewhere. Separating these factors must be deferred to another occasion.²

Perhaps the most interesting results in the Siegfried and Stock paper come from the section “Attitudes Toward Job.” New Ph.D.’s report that by and large their jobs are commensurate with their training, and their positions are professionally challenging; however, they also report that their positions are not as similar as they thought their jobs would be at the commencement of their graduate work. While the mean values of the 5-point rating scale are informative, it is difficult to know what to make of the responses because we have no idea why respondents answered as they did. One problem is that with the survey coming so quickly after beginning their new jobs (in November–December after receiving their doctorates), there is no way of knowing to what extent the responses reflect the “October blues” or the realities of the first job. Nor do the responses illuminate what lies behind the responses to these “check your response” questions. Thus, a follow-up set of

²I had hoped to explore this matter but was precluded by the recent shift of responsibility for the National Research Council’s Doctorate Records Project from the National Science Foundation to the National Opinion Research Corporation. I wanted to analyze registered time to determine what changes occurred by department quality tiers, and investigate whether the ever-larger percentages of non-U.S. citizen doctoral recipients spend more registered time earning their degrees, reflecting post-baccalaureate study obtained at another institution.

open-ended questions would have been informative. Among the questions that might have been asked, to parallel the three statements at the bottom of Tables 4 and 5, are the following: In what ways is your position not commensurate with your education and training? How does your position differ from what you expected it would be when you began your Ph.D. program? In what ways is your position *not* professionally challenging?

Even these questions fail to provide much insight into the nature and quality of doctoral education. The surveys conducted by the Commission on Graduate Education in Economics revealed that young Ph.D.'s three to six years beyond their degree had interesting observations to make about their graduate training. Further questioning of the Siegfried-Stock respondents might have shown what gaps exist in the knowledge and skills new Ph.D.'s need on the job but fail to acquire in graduate school. They might have indicated to what extent graduate programs are setting implicit standards of success that only a few of their students will actually meet, so that a disproportionate number feel they have landed too low in the pecking order of jobs.

Because there is so much more to be learned, Siegfried and Stock are encouraged to undertake a follow-up survey of their respondents several years from now. Such a survey would track the experience of this same group of Ph.D.'s, to assess their job satisfaction, the challenges of their work, and their insights about how to improve the education and training of new Ph.D.'s. The resulting information might well lead to recommendations that could reverse the steady increase in registered time to the Ph.D.

References

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