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Assessing the Role of Business Schools in the Market for New Economics Ph.D.'s

The projection of an oversupply of new Ph.D.'s in economics has remained largely unquestioned by the profession during the past decade. However, the crunch has not appeared in the magnitude or form originally suggested. Why has the crunch not materialized? If only deferred, when is it likely to happen? What role, if any, have business schools played?

In this paper we discuss six aspects of the projected oversupply. First, we review the basis for the projections of an oversupply and then examine official data to see if the projected oversupply materialized. Next, we discuss the emergence of business schools as the principal growth submarket for economists, and note the effect of the switch to other business disciplines on the market for economists. In addition, we review relative salary movements for evidence of developing market disequilibrium. Finally, we present some elements of the market outlook for economists.

The Case for an Oversupply of New Ph.D.'s

In the mid-1960s, Cartter (1965) shocked higher education circles with a finding that faculty quality—the doctoral ratio—was not in fact declining as official groups had widely reported. Hence, the quality-related need for increasing the output of Ph.D.'s disappeared. Though the trend was then hidden by truncated official projections, Cartter further stressed that a period of stable, or more likely falling, college enrollments was in the offing. If enrollment leveled off, then demand from market growth would disappear and leave only replacement demand. A sort of accelerator-effect decline would occur in the need for faculty and Ph.D.'s and would probably not be offset by a rising doctoral ratio. By 1971 Cartter, in an express examination of economics, pronounced the death knell for the seller's market. Cartter's (1971) oversupply position includes the following main points:

—College enrollments at best will level off, but more likely will decline in the 1970s both because of a forthcoming decline in the age-eligible group (18–21) and a plateau in the participation rate.

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—Numbers of faculty required generally move proportionately with undergraduate enrollments; it is assumed for economics "... that the share of the enrollment market remains constant over the period" (p. 305).

—Economics will maintain its relative growth in doctorates granted (about a 3 percent share).

—About two-thirds of economics doctorates have sought and must continue to seek academic employment, but replacement demand will require only a fraction of expected supply.

—Little in the way of an offset is likely, for even in 1963–64, 58 percent of full-time members of the economics faculty already held doctorates (73, 53, and 9 percent respectively for universities, four-year colleges, and two-year schools).

—A move to high doctoral ratios might be prompted by the large supply, but there is no likelihood that the doctoral ratio would exceed 74 percent (80, 75, and 25 percent respectively for universities, four-year colleges, and two-year schools).

—Aware of the declining market, by 1970 some schools were already beginning to cut back on entering classes of graduate students, but such reductions were more than compensated for by rapidly emerging doctoral programs in new public universities.

—The overall graduate education system will end up being 50 to 75 percent larger than the nation will require, with institutions continuing to produce doctorates without regard to the national market.

—Thus the U.S. faces "... a near permanent disequilibrium in the academic labor market" (p. 310).

Later studies confirmed Cartter's projection of an oversupply. Bezdele (1973) foresaw as few as one in twenty new Ph.D.'s securing academic employment by the end of the 1980s. Freeman (1971, 1974, 1976) stressed the lagged corrective force of supply adjustments to the feedback effects of a poor market; he suggested there would be substantial reductions in job opportunities and, thus, eventually, in the number of new Ph.D.'s.

The view concerning the evidence of an oversupply has now shifted. The literature no longer treats the disequilibrium in terms of jobless graduates, but rather in terms of a time delay in employment decisions, or a decline in placement quality, or dramatic market adjustments which have reduced supply even as demand has softened beyond predictions (see Hogan et al. 1978; Scott 1979; and Hansen et al. 1980).

Data

Reports of the National Center for Education Statistics (NCES 1975–80) indicate that total college enrollments and numbers of bachelor's degrees granted in economics fell during the 1970s. The NCES data also show that the ratio of economics degrees to total bachelor's degrees was not stable, as Cartter assumed, but has declined—from about 2.2 percent during the 1960s to about 1.5 percent in the 1970s (OE 1965–72; NCES *Digest* 1975–80).

The number of new Ph.D.'s has remained fairly constant, despite the possible decline in job opportunities. National Research Council data indicate

that two-thirds of the cumulative doctoral output in economics since 1920 has been produced in the years since 1960 (NRC *Doctoral* 1976; NRC *Doctorate* 1969, 1978). The number of new Ph.D.'s in economics, at record highs throughout the 1960s, has been at an even higher level in the 1970s, fluctuating by only about ±5 percent of the mean for the period. (In each academic year from 1969–70 through 1977–78, the numbers of economics Ph.D.'s awarded have been 794, 721, 794, 845, 788, 815, 763, 758, and 706 [NCES *Projections* 1978; NCES *Digest* 1978].)

In fact, Ph.D. output may be even more stable than appears on the surface because of a change in the way the data are reported. Before 1970–71, all economics degrees were included by NCES in both the economics and social science categories. Beginning in 1970–71, NCES instructed registrars to include business economics majors, at all degree levels, in the business administration category. As a result, some degrees formerly reported as being in economics were included in the business administration total. NCES personnel (Smith 1979) agree with us that much of the apparent decline in the numbers of economics degrees granted in 1970–71 was in fact the result merely of a recording shift. The impact of that classification change is shown in Table 1. Adding in the business economics Ph.D.'s dramatizes the stability in new Ph.D. output.

Employment of New Economics Ph.D.'s. An NRC survey (*Doctoral* 1976) found unemployment below 1 percent in 1975. Scott's data (1979) show the AEA's applicant-to-vacancy ratio declining during the early 1970s to near unity in 1975–76, and indicate that generally less than 7 percent of new Ph.D.'s were still unemployed at the time they received their degrees. Annual reports by the AEA Committee on the Status of Women in the Economics Profession also indicate the continuation of a substantial hiring rate—8 to 10 percent for 1974–75, 1975–76, and 1976–77 (Reagan 1979, p. 145); also, they report that a larger number of doctoral candidates received financial support in 1975–76 than in 1974–75 (though fewer departments responded to the survey in the later year). Ph.D. output up to this point seems to be holding up strongly, despite evidence that a doctoral glut may be beginning, as reflected in the approximately 20 percent drop in real starting pay from 1970 to 1975 (Scott 1979, p. 139).

NRC data show little substantial change in the percent of new Ph.D.'s accepting appointments in two-year schools and the business and government sectors, so these submarkets are not here further considered as employment sources. Cartter had projected average faculty requirements in the 1970s of about 150 and 100 respectively for expansion and replacement (1971, p. 306). But NRC data (*Doctorate* 1978) suggest that educational institutions hired 538 Ph.D.'s in 1970–71, 595 in 1973–74, 524 in 1975–76, and 482 in 1976–77. Consequently, the composition of enrollment and faculty at colleges and universities must be examined more closely.

Analysis of Undergraduate Enrollment. Enrollments in economics courses include various majors. The number of economics majors (excluding business economics majors) declined during the 1970s. Social science majors, a proxy for most other B.A. fields, increased until 1973–74 and then declined below the 1970–71 level. However, business school majors continued to increase throughout the 1970s even beyond the level that can be explained by the shift in classification discussed above. To show the combined effect of these different majors, we need to measure the "equivalent-B.A.-in-economics" demand. In

TABLE 1
Degrees Granted in Selected Fields, 1964–65 to 1977–78

	Social Science Bachelors	Economics		Business Administration[a]		Economics Ph.D.'s[a]
		Bachelors	Masters	Bachelors	Masters	
1964–65	99,240	10,875	1,268	60,038	10,707	410
1965–66	110,723	11,585	1,528	63,639	13,142	458
1966–67	124,414	13,058	1,778	70,011	15,110	546
1967–68	145,902	15,296	1,921	80,592	18,101	600
1968–69	172,616	16,907	2,113	94,533	19,612	634
1969–70	190,395	17,258	1,990	106,054	21,599	794
1970–71	205,931	15,758	1,995	115,527	26,544	721
				(2,179)	(242)	(66)
1971–72	217,768	15,231	2,224	122,009	30,433	794
				(2,345)	(269)	(78)
1972–73	226,131	14,770	2,225	126,830	31,166	845
				(2,394)	(242)	(74)
1973–74	230,954	14,285	2,141	132,384	32,753	788
				(2,458)	(263)	(69)
1974–75	218,926	14,046	2,127	133,822	36,364	815
				(2,339)	(301)	(69)
1975–76	213,853	14,741	2,087	143,436	42,620	763
				(2,576)	(342)	(80)
1976–77	201,916	15,296	2,158	152,088	46,565	758
				(2,194)	(330)	(72)
1977–78	195,028	15,661	1,995	161,271	48,484	706
				(2,251)	(313)	(54)

SOURCE: OE (1965); and NCES *Digest* (1974).
[a]The counts of business economics majors are shown in parentheses. The totals for business administration bachelors and masters include, and the totals for economics Ph.D.'s exclude, those counts. Before 1970–71, as explained in the text, NCES included the data for business economics majors in the economics and the social science categories only and did not report the figures separately.

such a measure, other degree majors are expressed as enrollment equivalents of undergraduate economics majors. The assumptions are as follows: social science majors are weighted at 4 percent of an economics B.A. (20 percent taking economics courses, each taking about one-fifth as many courses as an economics major); economics M.A.'s are weighted at twice an economics B.A. (scheduling as many courses but in sections half as large on average); business administration bachelor's, except business economics majors, are weighted at 20 percent of an economics B.A. (one-fifth the number of courses); and M.B.A.'s are weighted at 40 percent of an economics B.A. (20 percent as many courses but in sections half as large). The equivalent enrollment data are reported in Table 2.

Economics faculty data are available in various reports of the National Science Foundation. The 1964 *American Science Manpower* report (NSF 1966) estimates that about 90 percent of all Ph.D.'s and about 75 percent of all others were encompassed by the series. The *Manpower Resources* reports (NSF 1969–79) provide data based on institutional reports of the payroll count of

TABLE 2
Equivalent-BA-in-Economics Enrollment and College and University Full-Time Employment of Economists, 1964–65 to 1976–77

Year	Equivalent-BA-in-Economics Enrollment[a]	Economists Employed Full Time by Colleges and Universities[b]
1964–65	31,537	
1965–66	34,384	(6,550)
1966–67	38,615	
1967–68	44,599	(7,900)
1968–69	50,867	8,630
1969–70	54,320	(9,250)
1970–71	58,157	9,507
1971–72	60,754	
1972–73	61,780	9,678
1973–74	62,798	9,830
1974–75	63,151	10,190
1975–76	66,741	10,410
1976–77	69,181	10,685

[a]For explanation, see accompanying text.
[b]The data in parentheses are from NSF, *American Science* (1966, 1968, 1970). The other figures are from NSF, *Resources* (1969, 1971) and NSF, *Manpower* (1975, 1976, 1977).

scientists and engineers (by definition, those with a graduate degree in the field or a B.A. plus two years of experience). Table 2 provides the faculty employment data from the latter series for most years since 1969–70, plus factored counts (at the above-cited 90 percent for Ph.D.'s and 75 percent for others) from the *American Science Manpower* series for certain earlier years.

By comparing the faculty data with the equivalent-B.A.-in-economics enrollment data, we can demonstrate the growth element in the demand for economics faculty and, it is hoped, for new Ph.D.'s. The simple linear correlation for the faculty and equivalent-B.A. variables produced an R^2 of nearly .97 for the seven years of firm data, and an R^2 of nearly .99 for the ten-year set. At the least, such a relationship suggests that a large proportion of the demand for new economics faculty may be the result of business major enrollments and raises the question of whether demand from that source will continue.

Business Schools as the Principal Growth Submarket

One way to examine this submarket is to look at how it has been changing. We have three points of comparison. The Carnegie and Ford Foundation-sponsored studies of business administration at the end of the 1950s anchor our analysis (Pierson 1959; Gordon and Howell 1959). The American Assembly of Collegiate Schools of Business (AACSB 1971) made a comprehensive review of business school operations in the late 1960s which encompassed both accredited and nonaccredited schools. The authors derived faculty characteristics by drawing a random sample of over 100 schools with nearly 5,000 faculty from

AACSB's *Faculty Directory* (AACSB 1976), which contains abbreviated data sheets for over 16,000 faculty in 470 schools.

Three points derived from the 1959 studies are particularly noteworthy: (1) All business schools required one year of economic principles, and over 70 percent of such schools required one or more additional courses (Gordon and Howell 1959, pp. 182, 244). (2) Economics departments were wholly or jointly housed in schools of business in about half of the surveyed schools (Pierson 1959, p. 721). (3) Business schools were a major employer of all economics Ph.D.'s, absorbing 40 percent of all new business administration and economics Ph.D.'s (Gordon and Howell 1959, pp. 343–350).

It is also significant that since 1967–68, full-time economics faculty have grown only about 30 percent while total faculty in business have grown by about 67 percent. The slower growth rate in economics faculty appears to be the result of several factors including a relative reduction in the number of required economics courses; a smaller proportion of majors in economics; the use of larger class sections; the relatively greater use of graduate teaching assistants; and the occurrence of most of the growth at state-supported schools (see Monson 1978 for data of similar import). Full-time economics faculty thus have declined slightly, from 16 to 14 percent of total business faculty (calculated from AACSB 1971 and 1976). Though we believe the proportion of all faculty who are employed principally in teaching economics has reached a trough, we cannot provide definite validation of our claim.

Even so, the market for economics Ph.D.'s might be favorable to the extent that a higher doctoral ratio is programmed for economics; or economics Ph.D.'s are used to satisfy a minimum overall doctorate ratio for accreditation; or economics Ph.D.'s are employed principally in teaching other business subjects. As of 1975, nearly all (93 percent) full-time faculty principally teaching economics in accredited schools held a doctorate, well above the maximum of 80 percent Cartter had assumed (calculated from AACSB 1976). In such schools, very few additional employment opportunities can occur because of quality-improvement growth in the economics doctorate ratio; these schools have, in the aggregate, filled most of the faculty positions. Even in nonaccredited schools with twenty-five or fewer faculty, 76 percent of the economics teachers have doctorates, compared to 44 percent for the rest of the faculty (calculated from AACSB 1976). Among the smaller accredited schools, 84 percent of the full-time economics teachers hold doctorates (calculated from AACSB 1976). Monson's data (1978) show about the same ratios for schools and departments outside business administration. Except for unforeseen external pressures to push the economics doctoral ratio even closer to 100 percent, neither a quality-based nor a quantity-related expansion in economics teaching opportunities appears likely.

Exacerbating matters, economics Ph.D.'s continue to be less important in meeting the overall doctoral ratio of business schools, partly because business Ph.D.'s are available, too. In addition, AACSB standards call for subject preparation that matches teaching specialties as well as an adequate doctorate-faculty distribution among the several disciplines. These standards largely apply as well to nonmember schools that measure themselves against comparison schools. In 1957, economics Ph.D.'s in accredited business schools constituted 56 percent of the business school doctoral faculty. By 1975 the proportion had fallen to 29 percent. The dramatic shifts in the doctoral faculty composition

from economics to business disciplines are summarized below (the data were calculated from AACSB 1976 and Gordon and Howell 1959, p. 343):

	Nonaccredited Schools		Accredited Schools	
	1957	1975	1957	1975
Economics	48%	35%	56%	29%
Business disciplines	52	65	44	71
Total	100%	100%	100%	100%

Field Switching

Persons whose doctoral specialties are in economics may, of course, teach principally in other areas. Economists constitute over one-fourth of the faculties in banking and finance, industrial relations, insurance, and real estate where these teaching specialties are separately listed. The magnitude and pattern of field switching are shown in Table 3.

Among factors affecting field switching is the AACSB's two-field teaching rule, which permits a faculty member to teach in both a primary and a secondary field. Moreover, by their training economists may be considered a "superior good" for teaching in other business fields. In addition, multifield assignment as well as greater availability of economists in the 1950s and 1960s—at a rate nearly double that of all business disciplines combined—prompted employment of economics Ph.D.'s in large numbers. Thus, among faculty fifty-five and older, there are nearly twice the proportion of economics Ph.D.'s as of business Ph.D.'s (22 vs. 12 percent). However, a trend in the pattern of utilization adverse to economics Ph.D.'s may be developing.

The extent to which economists teach in other business disciplines can be determined by classifying all economics Ph.D.'s according to the period in which they received their doctorates and then calculating the percent in each group principally teaching subjects other than economics. The data shown below, which are for 1975 and were calculated from AACSB (1976) indicate that a majority of those who received their Ph.D.'s before 1966 are mainly teaching subjects other than economics, but less than a third of those who received their doctorates since 1970 are doing so. Generally speaking, the number of economics Ph.D.'s teaching subjects other than economics has moved opposite to the availability of both economics and business Ph.D.'s. For example, about four in five economists teaching management, marketing, and industrial relations had earned their degrees by 1965, as had about three in five of those teaching quantitative methods and banking and finance.

Period in Which Econ. Ph.D. Was Granted	Nonaccredited Schools	Accredited Schools
1965 or earlier	53.8%	56.1%
1966–70	31.6	36.1
1971–75	27.5	34.7

The available data do not support the idea that economics training is judged superior to other training and that therefore new economics Ph.D.'s might be

TABLE 3
Business School Faculty with Economics Specialization as Percent of All Faculty in Selected Teaching Fields, 1975

Teaching Field	Nonaccredited Schools	Accredited Schools
Accounting	2.5	4.7
Banking and finance	14.8	26.0
Economics	85.0	90.8
Industrial relations	21.4	33.7
Insurance	33.3	28.6
Management	8.3	7.1
Marketing	8.9	11.2
Quantitative methods	15.8	11.7
Real Estate	50.0	21.2

SOURCE: Calculated from AACSB (1976).

preferred over other business Ph.D.'s. While the total number of new Ph.D.'s in economics is relatively stable, with foreign students (most on temporary visas) accounting for over 30 percent of the annual number, the fraction of new Ph.D.'s in 1976–77 who obtained teaching jobs nevertheless stood a full ten percentage points below the historical level. Given the shortage of business Ph.D.'s, such decline is not likely to have occurred if economics training was regarded as superior preparation for teaching other business subjects. Furthermore, no similar significant drop in the academic-hiring proportion was found for business administration doctorates. This record seems to suggest that upcoming vacancies in various functional fields in business administration currently held by economists will be filled by business Ph.D.'s.

Relative Salary Movements

Salary data suggest an apparently growing imbalance between supply and demand of economics Ph.D.'s. In 1965, the AACSB median salary for all inexperienced Ph.D.'s was about $250 above that for newly minted economics Ph.D.'s, as reported by Boddy (1971). The medians for the two categories differed by about $500 in the late 1960s, and by about $750 in the early 1970s. Since 1975, the medians have differed by more than $1,500.

Details available in AACSB salary data since 1972–73 permit a more specific comparison with other business disciplines (AACSB 1978 and annually). The median for inexperienced Ph.D.'s in economics in 1972–73 lagged the aggregate median for the other major disciplines (accounting, finance, management, and marketing) by $850, and that for accounting alone by $1,600. By 1980–81, the economics median fell more than $2,500 below the major-disciplines median and $5,000 below the accounting median. For still other measures of a disequilibrium, see Scott (1979), Hansen (1980), and Hogan et al. (1978).

Some Elements in the Outlook

As already noted, demand for new Ph.D.'s in teaching is largely tied to enrollment for bachelor's degrees (consumer demand). NCES projects a decline

in social science degrees from the current nearly stable position after 1982–83 (NCES *Projections* 1978). B.A. economics majors are not separately projected; however, it will take a sharp—therefore unlikely—increase in the attractiveness of economics as a major to offset the likely decline in social science majors as a whole. NCES also projects a slow growth in the number of B.B.A.'s and M.B.A.'s until the mid-1980s, and then a decline. Our more optimistic projections (White et al. 1977, 1978) also show a slowing of growth and a decrease in business degrees by the end of the 1980s. In sum, by 1981, a very much slower growth in faculty requirements was visible, and if NCES projections for the rest of the decade are valid, then at most only a slight composite growth in enrollment for the various degrees will occur.

If relative salaries fall further, price-elastic opportunities such as junior college employment of doctorates may appear (refer to Cartter 1971 and Freeman 1976). Yet the near-100 percent doctoral ratio, currently the standard at four-year schools, suggests that only a limited effect can occur from a higher doctoral ratio. Moreover, a recent American Council on Education report (Atelsek and Gomberg 1978) finds that virtually no nonuniversity institutions of higher education expect to increase the percentage of doctorates among their new faculty over the next five years. Further, less than 10 percent of two-year schools indicated a strong preference for faculty with doctorates.

Accordingly, as the 1980s unfold, it appears that new Ph.D. openings (thus students) will occur primarily from replacement demand, an estimated 200–250 annually; additional doctoral output may result from enrollments by foreign students (those not subject to forces in the U.S. system), as the export of educational services continues to reflect this country's comparative advantage. Added to this count, (of about 400 collectively) may be new-Ph.D. teaching opportunities to offset a net decline in experienced faculty resulting from decreases in relative pay (refer to Cartter 1971): a 1 percent annual reduction of experienced personnel would create about 100 openings. In sum, if projected undergraduate-master's enrollments hold, perhaps one-half to two-thirds the current level of new Ph.D.'s could be readily absorbed; beyond this number, sharply falling salaries are likely.

Meanwhile, the number of institutions contributing to the doctoral output already stands at a high level. According to NCES data, the number of schools awarding economics doctorates increased from eighty-three in 1966–67 to ninety-seven ten years later; another eight granted business economics doctorates under the business administration classification only, and a few schools awarded degrees under both labels (an unknown number of D.B.A.'s also had economics specialties). Beyond the potential for overproduction, the current "downstream placement" of Ph.D.'s may require further accommodation because a large portion of the openings will be at schools (state-supported; two-year programs, etc.) with orientations toward teaching and public service (refer to Ault et al. 1979, and Tuckman et al. 1977).

Conclusion

Many uses exist for appropriate empirical data about the business school sector of the total market for economics Ph.D.'s. For one, doctoral candidates about to make a large investment in training for a lifetime career need sound occupational data. Generally, they will find that the share of economics Ph.D.'s among all business school Ph.D.'s has been declining, partly because economics courses no longer constitute as large a part of the core curriculum for business

students and partly because of an increase in the hiring of field-specialized business administratic · 'octorates, instead of economics Ph.D.'s, to teach such subjects as finance and · lustrial relations. Compounding the problem, retiring economists teaching "outside" subjects are not as likely to be replaced by economists. Faculty in turn will find that graduate programs attract fewer doctoral students. A slower rate of year-to-year gain in median nominal salaries for inexperienced economics Ph.D.'s inferentially reflects an intensifying adverse movement in demand relationships for all economics Ph.D.'s. Real salary declines have also been reported by others. Lower beginning salaries certainly will be a drag on the salaries of experienced Ph.D. economists.

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