

**“How Do Median Graduate Economic Programs
Differ from Top-ranked Programs?”**

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August, 2009

MIDDLEBURY COLLEGE ECONOMICS DISCUSSION PAPER NO. 09-13



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How Do Median Graduate Economic Programs Differ from Top-ranked Programs?

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Abstract

This paper reports the results of a survey of median economics graduate programs and compares it with the results of a survey of top economics graduate programs done by Colander. Overall it finds that while there are some differences in the programs, there are large areas of similarity. Some of the particular findings are that there are more US respondents in median programs than in top programs, median students have more interest in econometrics, history of thought and economic literature than do students at top programs, although after the fifth year, their interest in any field drops significantly. It also finds that students at top schools are much more likely to be involved in writing scholarly papers, and that students at top schools give far less emphasis to excellence in mathematics as a path to the fast track than do students at median schools.

How Do Median Graduate Economic Programs Differ from Top-ranked Programs?

Over the last 20 years, Colander (Colander and Klamer (1987), Colander (2005, 2006)) has studied graduate economics education at top schools in the United States. Top economics programs are influential to the economics profession, but they are not the entire story. The top 15 programs grant about 30 percent of all U.S. PhD's awarded each year (Hansen, 1991) which means that the other more than 100 PhD programs grant about 70 percent of the economics PhDs. The goal of this paper is to consider the making of an economist at these other programs, which we will call median programs, and see how they differ from the making of an economist at the top programs studied previously by Colander.

The data for this study was collected through an on-line survey that duplicated most of the questions Colander asked students at top schools.¹ The questions reported on here are a subset of a more extensive survey distributed to 131 schools across the United States. In this larger survey, 1,489 students from 106 schools completed the questionnaire, which from a total population of about 12,000 economics graduate students, generates a response rate of 12.6 percent.²

In order to generate the subsample of median schools on which the comparison to Colander's previous work on top schools can be made, some ranking scheme must be utilized. Exactly what is considered a top and a median school is a continual subject of debate, especially at schools close to the top, but not counted as top, in a particular ranking. Because there are many different rankings, there are at least 20 and possibly 30 schools that consider themselves to be in the top 10. However, for schools ranked 20 or below, it becomes harder and harder to make the case for a top school designation.

The National Research Council classifies programs by Tiers, with Tier 1 being the highest, and Tier 5 the lowest. Tier 1 programs produced an average of 22.3 PhD's per year over the 1970 to 1992 period. Tier 2 programs have produced on average 17.5 PhDs per year, Tiers 3, 4 and 5 Programs produced 9.25, 6.8 and 5.1 PhDs respectively (Scott and Anstine, 1997). To determine the population of median schools we excluded all institutions ranked 25 or higher in Thursby (2000). Thus, translated to National Research Council classifications, we have excluded all Tier 1 and Tier 2 schools and some Tier 3 programs. This leaves 75 programs from Tiers 3, 4 and 5, and 32 programs too small to make it into the NRC study.³

¹ Colander's initial survey is available in Colander (2006). Here we provide relevant questions in footnotes where appropriate.

² In 2005, 11,805 students were enrolled in economics graduate programs granting masters and/or PhDs (NSF, 2005), which is a slightly larger group than those granting PhDs, the group we tried to capture.

³ We also excluded five schools that might be called heterodox programs, the New School, University of Massachusetts Amherst, George Mason University, University of Utah and University of Missouri in Kansas City. These programs were sufficient outliers so that we felt that they were best considered separately.

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Of the population of 107 median programs, eighty-six participated in the survey, so the results presented here are for a subset of 86 “median” schools within the larger survey. Because the top 25 programs and five heterodox programs not included in our median designation are also the largest programs, we estimate that the percentage of median students is approximately 60 percent of the total population, or about 7,500 graduate students. We obtained responses from 742 students, suggesting a response rate of about 10 percent of the total number of students whom we have classified as median students.⁴ The distribution of the sample by year was 24 percent for first year students, 25 percent for second, 19 percent for third, 15 percent for fourth, and 16 percent for fifth year and beyond. The comparison group’s data of top schools come from Colander’s previous study of top schools (Colander, 2006).

Profile of the Median Student

The median economics student is a white, 28 year old, male, making him about two years older than the average student at top schools. At median programs, women made up 37 percent of our respondents, a slightly higher percentage than the 29 percent in Colander’s study of top schools. The ethnic composition of respondents is very similar across rankings. There are, however, fewer foreign student respondents in the median school survey than at top schools: 47 percent of median respondents are foreign compared to 62 percent in top schools. Median students were also less likely to have majored in economics or math at the undergraduate level. 67 percent of median students hold undergraduate degrees in economics, and 8 percent in mathematics, compared to 81 percent and 21 percent, respectively, for those attending top programs. Fewer median students obtained a Masters degree before pursuing their doctorate. Half of all median students worked before entering graduate school, a similar result to top students. However, there was a difference in the type work they did. Top students are more likely to have worked as economics research assistants, whereas median students were more likely to have had non-economics related work.

The median student body is not homogeneous regarding the factors that influenced their graduate program choice, and includes two distinct subgroups. U.S. students in median programs are more likely to have chosen their program because it was geographically convenient and a reasonably good academic fit. 43 percent chose their school for its location and another 43 percent chose it for its compatibility with their interests as well as the funding provided to them. Some of these students may have been able to attend top schools, but chose not to do so. U.S. median students tended to be less concerned with the ranking of the program; only 14 percent reported it as a reason for their choice. Foreign students were more likely to have chosen their program for the funding, even though they may have been accepted at a higher ranked program.⁴⁷

⁴ In choosing the subset we tried to exclude those programs that had only Masters Programs and thus only capture students in PhD programs. There are a couple potentials for bias that parallel the bias in Colander’s earlier studies. Specifically, technically oriented students and foreign students are less likely to answer questionnaires, so the estimates of foreign students may be low, and the answers may reflect the views of less technically oriented students. While we tried to find an appropriate sample, the study makes no claim to be a fully scientific study. Thus, like Colander’s earlier studies no significance tests are reported since the assumptions needed for the significant tests to be significant have not been met, and including such test statistics could make the results more scientific than they in fact are.

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percent of foreign median students chose their program for the financial aid it provided them as well as the compatibility of their academic interests; 28 percent chose according to ranking and another 26 percent according to location.

Economists are often thought of as conservative, but that is not the case for graduate students in either median or top schools. Specifically 31 percent of median students classified themselves as moderate, 36 percent as liberal, 12 percent as conservative and 3 percent as radical. This compares to 24 percent moderate, 47 percent liberal, 16 percent conservative, and 6 percent radical at the top schools. Median programs also have a relatively high percentage of students expressing no interest in politics compared to top programs. 17 percent of median students versus 6 percent of students at top schools had no interest in politics. About one in five students at median programs said that their political views had changed in graduate school, the majority of which became more moderate.

Table 1 indicates the percentage of students who expressed “great interest” in specific fields of study. A few notable differences across school categories stand out. The largest difference is in econometrics, where the median student is almost twice as likely to express great interest compared to students at top schools. Furthermore, the median student expresses greater interest in most fields of study. The area of greatest interest to median students is micro theory; women at top schools in particular have a much lower interest in micro theory. For both groups, the area of least interest is comparative systems, followed closely by history of thought and urban economics.

Table 1: Fields “of Great Interest” by School Rank and Gender⁵

	Median			Top		
	Total	Female	Male	Total	Female	Male
Micro Theory	46%	45%	47%	35%	18%	42%
Macro Theory	31%	29%	33%	34%	29%	35%
Econometrics	40%	41%	40%	22%	14%	26%
International Trade	28%	32%	25%	19%	23%	18%
Public Finance	26%	25%	26%	24%	28%	23%
Money and Banking	22%	20%	24%	21%	12%	25%
Labor	26%	32%	23%	32%	42%	28%
Industrial Organization	29%	30%	28%	18%	18%	18%
Law and Economics	24%	23%	25%	15%	11%	17%
Urban Economics	15%	16%	15%	11%	17%	9%
Economic Development	39%	43%	37%	39%	40%	38%
Comparative Economic Systems	14%	14%	14%	9%	9%	9%
History of Thought	17%	17%	17%	9%	5%	11%
Political Economics	32%	28%	35%	24%	18%	27%

As indicated in Table 2, which breaks down the results on interest at the median school by year, student interest in fields fluctuated by year, and generally declined as students progressed. It seems that by the fifth year and beyond student’s general interest in the various areas has declined markedly.

⁵ This table gives the percentage of students who reported great interest when asked to “rate the following fields with respect to your degree of interest.”

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Table 2: Fields “of Great Interest” to Students at Median Schools by Year

	year 1	year 2	year 3	year 4	year 5 +
Micro Theory	49%	45%	41%	52%	23%
Macro Theory	34%	29%	32%	27%	16%
Econometrics	30%	48%	37%	39%	26%
International Trade	37%	27%	27%	19%	11%
Public Finance	28%	33%	19%	19%	12%
Money and Banking	22%	31%	16%	19%	8%
Labor	21%	20%	27%	34%	16%
Industrial Organization	31%	24%	27%	27%	20%
Law and Economics	29%	25%	18%	21%	11%
Urban Economics	19%	15%	12%	12%	7%
Economic Development	49%	40%	29%	34%	20%
Comparative Economic Systems	19%	13%	11%	6%	10%
History of Thought	22%	17%	11%	15%	8%
Political Economics	43%	28%	28%	27%	14%

Students were also asked about activities they were engaged in outside of class work. Table 3 provides the overall responses (as well as responses by year in the program) and compares these with those of students at top programs. Median students are more likely to hold teaching assistantships than top students, especially during latter years in their program. This, we suspect, is related to the lesser research-oriented financial support offered by median programs. A second difference is that fewer median students are engaged in the writing of scholarly papers. Whereas 49 percent of students in top programs spend some of their time writing scholarly papers for publication, only 31 percent of median students are similarly engaged, although this percentage increases as median students progress through the program, although it still remains below the top schools. This, we suspect, reflects both the strong push at top schools to get students writing papers early, (since it is often expected that if you are going to get a job at a top university, you should have one or two papers submitted for publication at the time you apply) and the need of median programs to have graduate students working as TA’s. As will be discussed in more detail below, the median student is less focused on getting a job at a top university.

Table 3: Other Activities⁶

	Total	Median					Top Top
		1 st	2 nd	3 rd	4 th	5 th +	
TA	54%	45%	50%	68%	65%	54%	37%
RA	30%	21%	34%	35%	32%	31%	31%
Writing Scholarly Papers	31%	11%	19%	38%	53%	53%	49%
Sports	24%	21%	24%	25%	29%	22%	33%
Volunteerism	14%	13%	16%	15%	15%	11%	13%
Consulting	9%	6%	12%	8%	6%	12%	8%
Political Work	2%	1%	3%	2%	4%	2%	4%

⁶ This table reports answers to the question “In which of the following activities, besides studying, are you currently engaged. Check all applicable alternatives.”

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Table 4 compares median students' answers to what puts a student on the fast track to the responses of students at top programs. Median students consider empirical research and excellence in mathematics to be much more important than do students at top schools. Our belief is that these differences reflect, in part, the better mathematical training of students at top schools, and the difference in focus. Such skills are more likely to be taken for granted by students at top schools than those at median schools. In interviews conducted at top schools by Colander (2006), it was clear that creativity—telling the professor something they did not already know—was seen by students as the path to the fast track, and this needs not be closely related to excellence in mathematics or even in empirical research.

Table 4: What Puts Students on the Fast Track⁷

	Very Important		Moderately Important		Unimportant		Don't know	
	Median	Top	Median	Top	Median	Top	Median	Top
Being smart in the sense that they are good at problem solving	60%	51%	35%	38%	3%	7%	1%	2%
Being interested in, and good at, empirical research	55%	30%	38%	52%	5%	12%	2%	4%
Excellence in mathematics	54%	30%	41%	52%	4%	14%	1%	3%
Being very knowledgeable about one particular field	34%	35%	46%	42%	16%	15%	4%	7%
Ability to make connections with prominent professors	39%	33%	44%	40%	13%	19%	4%	7%
A broad knowledge of the economics literature	24%	11%	52%	44%	21%	35%	3%	8%
A thorough knowledge of the economy	20%	9%	44%	24%	33%	51%	4%	15%

Another difference between median and top school responses is that median students reported knowledge of the economy and of economics literature as more important than did students in top programs. This most likely reflects both the training and the type of job students are likely to get. Graduates from top schools are more likely to be preparing for a job at a major university, where research dominates, and much of that research is highly abstract and specialized, and generally removed from a broad knowledge of the literature or real world economy. Median students are more likely to be preparing for an undergraduate teaching position or a job in government or private business where knowledge of literature and the economy is more highly valued.

Table 5 presents the answers to a question asking the degree of stress generated by different components to their program. Other than a student's financial situation, there are only slight differences between students at the two categories of institutions. As to be expected, more than one half of each cohort indicated that coursework and finding a dissertation topic was either stressful or very stressful.

⁷ This question reports responses to the question "Which characteristics will most likely place students on the fast track?"

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Table 5: Elements of Stress⁸

	Very stressful		Stressful		Moderately stressful		Not stressful	
	Median	Top	Median	Top	Median	Top	Median	Top
Coursework	27%	33%	35%	32%	28%	26%	10%	9%
Your financial situation	20%	8%	20%	12%	34%	33%	26%	47%
Relationship with faculty	8%	9%	14%	24%	28%	34%	50%	33%
Relationship with students	2%	1%	6%	10%	19%	25%	73%	64%
Doing the mathematics	16%	12%	22%	21%	36%	31%	27%	36%
Finding a dissertation topic	22%	29%	31%	33%	27%	20%	19%	18%
Maintaining a meaningful life outside school	21%	22%	25%	23%	28%	30%	26%	26%
Conflict between course content and your interests	16%	16%	25%	18%	33%	34%	27%	32%

Despite the degree of stress experienced, students at median programs were happy with their experience in graduate economics, although not as happy as those at top schools. Three quarters of all median students indicated that they would attend graduate school if they had to do it over again, compared to 93% of students at top schools. Only 10 percent of the student body would not, and 15 percent were unsure, which is similar to that found at top schools. However, students at median schools were slightly less happy with the experience in their particular program than were students at top schools. Only 56 percent of students at median programs said they would attend the same graduate school compared to more than 80% at top schools.

Table 6 presents current views of students on a number of propositions about economics, and contrasts them with those they held prior to entering graduate school. Graduate school study appears to have had the greatest impact on their perception that learning mainstream economics means learning a set of tools; 45 percent of median students now strongly agree with this proposition as compared with only 31 percent holding that belief prior to graduate school. Median students also became more skeptical of the view that economists agree on the fundamental issues; disagreement with the statement grew from 30 percent of all students prior to entry in the program to 45 percent at the time of the survey. Students' views on other statements did not change to a large degree. When comparing the median student responses to those at top schools, only minor differences exist with the exception of the "relevance" of economic study.⁹

⁸ This table reports responses to the question: "Can you think of any elements of graduate school that have been, or are currently, stressful for you." It gave students the eight options listed to choose from.

⁹ This difference might be attributable to a change in wording. The survey of top students (Colander, 2006) specified "neoclassical economics." Because the term "neoclassical" proved ambiguous to many students—they did not know what it meant, in this study we specified "economics" rather than neoclassical economics.

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Table 6: Current vs. Prior Perspectives on Economics¹⁰

	Currently agree		Previously agreed		Currently disagree		Previously disagreed	
	Median	Top	Median	Top	Median	Top	Median	Top
The study of economics is relevant for the economic problems of today	58%	44%	67%	37%	7%	5%	3%	10%
Economists agree on the fundamental issues.	8%	9%	18%	11%	45%	44%	30%	34%
We can draw a sharp line between positive and normative economics.	12%	12%	17%	15%	35%	40%	22%	28%
Learning mainstream economics means learning a set of tools.	45%	36%	31%	26%	13%	14%	15%	13%
Economics is the most scientific discipline among the social sciences.	51%	50%	46%	46%	14%	16%	13%	15%

Table 7: Views on Policy Issues¹¹

	Agree		Agree with reservations		Disagree		I have no opinion	
	Median	Top	Median	Top	Median	Top	Median	Top
Fiscal policy can be an effective tool in a stabilization policy	23%	21%	55%	58%	13%	12%	9%	9%
Central banks should maintain a constant growth of the money supply	10%	7%	38%	22%	33%	50%	19%	22%
The distribution of income in developed nations should be more equal	25%	32%	33%	41%	33%	18%	8%	9%
A minimum wage increases unemployment among young and unskilled workers	31%	33%	34%	38%	28%	23%	7%	7%
Tariffs and import quotas reduce general economic welfare	47%	51%	37%	39%	12%	7%	5%	3%
Inflation is primarily a monetary phenomenon	27%	34%	36%	33%	23%	20%	14%	14%
Wage-price controls should be used to control inflation	4%	0%	18%	8%	61%	78%	17%	13%
Worker democracy will increase labor productivity	10%	10%	33%	29%	26%	29%	31%	32%
The market system tends to discriminate against women	15%	14%	31%	28%	42%	47%	11%	11%
The capitalist system has an inherent tendency towards crisis	9%	6%	19%	12%	56%	68%	16%	14%

¹⁰ This question asked students to “consider the following statements and compare your current opinion with the one you held before you began graduate school.” It provided students four options: strongly agree, agree somewhat, disagree, and no clear opinion. Results report in this table combine the strongly agree and agree somewhat responses into the category of agree.

¹¹ This question asked students whether they agreed with the following propositions, providing the four answer options listed in the table.

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In Table 7, we compare median and top students' views on policy issues. What stands out in this table is the similarity of views, although median students show less aversion to interventionism. When asked whether central banks should maintain a constant growth of the money supply, 48 percent of median students agreed to a certain extent, whereas only 29 percent of students in top tier programs thought so. When asked whether wage-price controls should be used to control inflation, 61 percent of median students opposed it, versus 78 percent of students in top programs. Median students are also less welcoming of reducing the income gaps in developed nations; 33 percent disagreed with the idea compared to 18 percent of students in top tier programs.

Table 8 reports the importance of certain assumptions for economics analysis as perceived by students in each cohort. The assumptions for which students were least likely to have an opinion were “cost mark-up pricing” and “the goal of a capitalist firm is to extract surplus value from workers.” Approximately 20 percent of median students had no strong opinion on either assumption. Yet for those who did have an opinion on the assumption “the goal of a capitalist firm is to extract surplus value from workers,” a dramatic difference across cohorts exists. 48 percent of all median students thought the assumption to be of some importance, whereas only 28 percent of students in top programs thought this to be important for economic analysis. This could signify that median students have greater exposure to more heterodox teachings of economics than students at top schools, despite the fact that schools most associated with radical and Marxist thought were excluded from the survey (see footnote 3).

Table 8: Views on Economic Assumptions¹²

	Very Important		Important in some cases		Unimportant		I have no strong opinion	
	Median	Top	Median	Top	Median	Top	Median	Top
The assumption of rational behavior ¹³	58%	51%	36%	43%	5%	5%	1%	1%
Economic behavior according to conventions	12%	9%	58%	55%	15%	17%	15%	19%
The rational expectations hypothesis	31%	25%	51%	58%	10%	13%	7%	4%
Imperfect competition	46%	37%	47%	58%	3%	3%	4%	2%
Price rigidities	24%	14%	56%	65%	9%	11%	12%	10%
Cost mark-up pricing	15%	5%	51%	47%	10%	18%	24%	30%
The goal of a capitalist firm is to extract surplus value from workers	14%	5%	34%	23%	32%	55%	20%	17%

A few other responses are worth reporting. When asked to evaluate the relevance of economists in society, 78 percent of median students answered positively. Only 5 percent thought economists to be irrelevant and 16 percent were unsure. Students at top tier programs responded exactly the same way. When asked how often they used

¹² This table reports answers to the question: “How important do you consider the following assumptions or perspectives for economic analysis.”

¹³ In the survey of top schools, this assumption was phrased as the “neoclassical” assumption of rational behavior.

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economic thinking, 77 percent of the students at median programs said they used it very often. Both of these are very similar to the responses of students at top schools. Another survey question asked students to identify their future employment plans—specifically where they hoped to be in fifteen years. Here there was a difference with students at top programs. Whereas 59 percent of top students saw themselves at a major university, only 27 percent of median students envisioned themselves there. Alternatively, 18 percent of median students saw themselves at good liberal arts colleges compared to 9 percent of students at top schools.

Discussion of Results

In its study of graduate education, the COGEE Commission (Krueger, 1991) argued that there is too much similarity among graduate programs, and one of its recommendations was that there should be more differentiation among schools. Colander (2003) and Stock and Hansen (2004) both found a (mis)match between skills emphasized in graduate school and those needed by students in their careers. This mismatch is accepted by the profession, and justified by top programs since they are primarily training students to become academic cutting-edge scientific researchers. They select students who have that as their goal, and their training is designed to create efficient journal article writers who will succeed in a high-level research environment. Their training is not designed for students with other job aspirations (Colander, 2006).

That justification is far less convincing at median schools. Students at median schools are far less likely to be headed to a cutting edge research university than are students at top schools. They are more likely to be headed for a job as an applied economist working for a non-profit, government, or private sector company, or working as an undergraduate teacher/scholar. For these jobs, the highly technical and mathematical training that is as central to the core micro and macro courses at top schools, and which is specifically designed to prepare students for cutting edge scientific research, has less relevance. To some degree the students in our sample recognize this distinction. When asked whether they hoped to be at a major university in 15 years, 27 percent of the median students indicated so compared to 59 percent of the students at top universities. Similarly 18 percent of the median students, compared the 9 percent of the students at top universities, pictured themselves at a liberal arts college in 15 years.

One important question that the survey provides insight into is whether the difference in expected job placement is linked to a difference in the training at top programs and at median programs. Our results suggest differences in training exist. Students at median schools are more likely to hold positions as TAs and spend less time writing scholarly papers than students at top schools. Furthermore, students' interpretations of the importance of specific educational components also differs. Students at median schools give greater importance to knowledge of literature and knowledge of the economy than students do at top schools. Similarly, in terms of skills important to career advancement, students at median programs gave much higher weight to empirical research than their top tier counterparts. In spite of these results, it is surprising that students at median programs also gave more weight to excellence in mathematics (54 percent) than students in top tier schools (30 percent) given expected

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differences in career paths of the students. If the median programs were training students in skills that matched their likely career paths, we would have expected the importance given to excellence in mathematics to be lower rather than higher at median programs.

There are a number of possible explanations for this result. One is that median programs often hire their professors from top programs which focus on mathematics and technical issues relevant for high-level scientific research much more than on the institutional, contextual, and more practical statistical issues that are more relevant for the teaching and applied policy research jobs that students in median programs will likely obtain. Professors teach what they learned. This tendency to copy the top programs in what is taught, is reinforced by the tenure and promotion system since almost all median programs structure their research incentives using the same quality-weighted journal article metric that emphasizes high-level scientific research that the top schools tend to use, rather than using a metric that more closely matches the skills median students will need. It was this approach as revealed in the COGEE Commission study that led to the suggestion that there should be more differentiation in the training of graduate students (Krueger, et al., 1991).

The potential difference in proficiencies taught and skill set needed by median students in their job suggests to us that there is an opportunity for some mainstream median graduate programs to differentiate themselves much more than what they do currently. For example, Grijalva and Nowell (2008) find that “many programs outside the traditional top 20 programs are ranked high in specific subject fields.” Further enhancing this differentiation not only by subject field but also by likely job prospects could lead to training that is more appropriate for government policy economists or for those who ultimately end up in positions focusing on undergraduate education. For example, the University of X could become the top producers of undergraduate professors in macro, whereas the University of Y could become the top producer of interdisciplinary teachers of applied policy. Once their specialization in likely job prospects becomes known, and their expertise in that specialization is recognized, top students interested in such careers will choose these programs over the now generally classified top programs, and when those employers are looking for new hires, they will turn first to these former median schools, which will now have become a top school in their specialty. Following the lead of programs already excelling in specific fields (rather than more broadly recognized), and extending specialization into areas of future job prospects are the type of innovative and entrepreneurial programs could fill market niches and generate benefits across the profession.

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