The Incentives of Future Economists - Striking a Balance between Tools and Relevance

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Abstract

As a contribution to the recent debate about graduate education in Economics, we have surveyed all students enrolled in the Stockholm Doctoral Program in Economics. We believe that this is a good representative of a strong European graduate program which in the early 1990's adopted a US-style structure. Our results show that students enter with a relatively broad academic background and an interest in social science and real world problems, but find that incentives within the program do not encourage participation in the policy debate. To the extent that graduate school is educating *idiots savants* it is not because students enter with no interest. Our results are remarkably similar to those found by Colander and Klamer (1987) in their survey of American graduate students in the late 1980's.

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1 INTRODUCTION

In the late 1980s graduate programs in economics were being closely evaluated in the US. Most visibly, the then-President of the American Economic Association, Professor Robert Eisner, appointed the Commission on Graduate Education in Economics (COGEE), which delivered its recommendations in 1991.[1] Around the same time many European universities were introducing "US-style" graduate programs.[2] This adoption of US practices has in many ways lead to improvements but also to some problems. Today, a good decade later, protests and concerns about the state of graduate education in economics can be heard all over Europe.[3]

A central issue, both in the previous American debate and the current European one, regards the balance between the teaching of tools on the one hand and relevance on the other. As Swedish economist Assar Lindbeck has put it, we may not be educating enough "two-legged economists".[4] By "two-legged" he means economists "who both master analytical techniques and have a feel for real-world problems".[5] The risk, according to Lindbeck, is that many young economists upon completing their graduate studies will apply the tools that they have learned in a purely mechanical way - lacking economic insight or intuition. Another concern is that these "one-legged" economists are retreating from the public policy debate leaving a void, which is readily filled by academics from other disciplines or representatives of special interest groups.

If one shares these concerns, a central question must be whether Economics as a subject for some reason is attracting less policy interested students (and perhaps

[1] The members of the commission were Professors Anne Krueger (chair), Kenneth J. Arrow, Olivier Jean Blanchard, Alan S. Blinder, Claudia Goldin, Edward E. Leamer, Robert Lucas, John Panzar, Rudolph G. Penner, T. Paul Schultz, Joseph E. Stiglitz, and Lawrence H. Summers. See e.g. "Report of the Commission on Graduate Education in Economics", *Journal of Economic Literature,* September 1991, pp. 1035-1053.

[2] See Frey and Eichenberger (1993) for a discussion on traditional differences between European and American economics.

[3] Under the banner "autisme-économie" a protest movement began among French economics students in June 2000. This has been followed by other petitions like the so called "Cambridge Proposal" and has resulted in the Post-Autistic Economics network. See *http:\\www.paecon.net* for further information.

[4] Lindbeck (2001), p. 32.

[5] Ibid.

more students interested in the technicalities of the subject *per se*) or if graduate education has come to put too little emphasis on "real-world problems". The main aim of this article is to shed light on this question by investigating the characteristics of "a representative European graduate student". Do graduate students care about policy issues and real-world problems, or have they chosen to study economics because they are primarily interested in applied mathematics? Are they interested in participating in the current debate? Is it true that they have very narrow academic backgrounds and are therefore unable to, for example, appreciate alternative methodologies in social science? Answering these questions is important when thinking about possible changes in how economics is taught. Are we "recruiting amputees" or do students run the risk of "loosing one leg while developing the other"?

To address these questions we have conducted a survey among all graduate students enrolled in the Stockholm Doctoral Program in Economics (SDPE) in October 2001. The program includes all of the Ph.D. candidates in economics at the Stockholm School of Economics and Stockholm University and can be viewed as a good representative of a strong, European graduate program, which in the early 1990s implemented an American-style structure.[6] Though smaller in scope, our survey is similar to the one conducted by David Colander and Arjo Klamer in the mid 1980s (see Colander and Klamer, 1987) which allows us to compare our results with some of theirs.

2 THE SURVEY

The goal of the survey was to obtain answers to the following questions. Why did students apply to the graduate program in economics? What type of academic background did they have? To what extent have they been active in their community

[6] The SDPE recruits students internationally and in this sense it is indeed a European, rather than Swedish program. Out of those enrolled in the program, one in four is not from Sweden. By "American-style" we mean a rather standardized two-year course-program and a thesis consisting of separate articles (rather than a monograph).

or in the public debate during their time as a graduate student? To maximize the likelihood of a high response rate the questionnaire was made as short as possible. As such, we do not view this survey as an in depth study of these questions. We do feel, however, that the responses give us a good indication of what characterizes and motivates today's graduate students in Economics.

The questionnaire - reproduced in its entirety at the end of this article - was sent out (using E-mail) to the 95 graduate students (57 male and 38 female) active in the Stockholm Doctoral Program in Economics (SDPE). Of these, 69 (44 male and 25 female) responded to the questionnaire, i.e. 73 percent. This can be compared to a response rate of about 25 percent, considered normal, for the much more detailed survey used by Colander and Klamer (1987). Answers were anonymous.

Students were first asked about their academic background. Is it the case that graduate students in economics have only studied the core subjects of economics, mathematics and statistics before starting the program? Have they studied other subjects in the social sciences and humanities? To the extent that it is true that graduate students become too focused on the tools and technicalities of economics, these questions are important for determining whether economics as a subject mainly attracts people with a narrow focus on economics and mathematics, or whether a typical applicant has also shown a broader interest in other subjects.

As shown in *Table 1,* 81 percent of the respondents have studied more than one full-time semester in other subjects than the so-called core subjects.[7] 45 percent of the respondents have studied more than three full-time semesters, that is more than 1 $\frac{1}{2}$ years, in other fields within the social sciences and the humanities. This result should be judged in light of the fact that there are no formal requirements for such courses in order to be accepted to the SDPE.[8] At the same time, 57 percent of the

[7] The Swedish academic year has two semesters, fall and spring. Studying full time for one semester gives the student 20 points (credits) and hence, one academic year of study gives 40 points. This was explained in the e-mail sent out with the questionaire.

[8] Qualified applicants meet one of the following two requirements: 1) Undergraduate degree (corresponding to fil kand) from a Nordic university with 60 credits (three semesters of full-time study) in economics (including an undergraduate thesis) and 60 credits of undergraduate studies in other subjects. A qualified applicant has written a senior thesis (C-uppsats) in economics. Applicants are encouraged to take the Graduate Record Examination (GRE) General Test. 2) An

students had less than three years full-time study in economics, mathematics and statistics upon starting the graduate program. It is also noteworthy that there is no correlation – neither positive nor negative – between having a strong background in quantitative subjects and having studied a large number of courses in other subjects within the social sciences or humanities.

The picture emerging from this is that today's graduate students have quite varied backgrounds and that almost half of them have studied the equivalent of more than one and a half years of full-time studies in other fields within the social sciences and humanities. The results do not support the claim that the typical doctoral student in economics has only studied mathematics and statistics and is, therefore, not familiar with the subject matter and methodologies used in other disciplines.

Why do students apply to the graduate program in economics? Are they motivated by an interest in the social sciences and in relevant social questions or are they motivated by an interest in mathematics and statistics? Are they perhaps most interested in the career opportunities that the program gives? To investigate these question we asked the graduate students to rank their reasons for starting their graduate studies. They were given six alternatives: their interest in social science, their interest in mathematics and/or statistics, career possibilities, earning potential, their interest to serve in the community and "other". As can be seen in *Table 1,* a clear majority, 65 percent, answered that they were primarily motivated by their interest in the social sciences. Second most important were career concerns (14 percent) and third was the "community interest". No one ranked their interest in mathematics and/or statistics as the primary reason for entering the graduate program in economics. Furthermore, the two alternatives which were ranked last by most of the respondents were "my interest in mathematics and/or statistics" and

undergraduate degree, BA, from a non-Nordic university with a major in economics and a senior thesis in economics. Applicants are strongly encouraged to take the Graduate Record Examination (GRE) General Test. Applicants who do not have Swedish or English as their native language must show proficiency in English to be considered for admission. We recommend such applicants to take the Test of English as a Foreign Language (TOEFL).

Although not required a good background in mathematics or/and statistics is often helpful for successful completion of a PhD in economics.

"other". Thus, it seems as if the typical doctoral student is primarily motivated by an interest in the social science, not so much an interest in mathematics and/or statistics *per se*.[9]

*Composition of undergraduate studies**

Economics/Mathematics/Statistics		Social sciences/Humanities (other than Economics)	
Less than 2 years:	19%	Less than ½ year:	16%
2-3 years:	38%	½-1½ years:	36%
More than 3 years:	43%	More than 1½ years:	45%

Reasons for staring the Ph.D. program in Economics

Ranked first (as most important out of six alternatives)	
Interest in social science	65%
Future career possibilities	14%
Desire to serve the community	12%
Ranked last (as least important out of six alternatives)	
Other reasons	19%
Interest in mathematics and/or statistics	14%
Desire to serve the community	14%

*The minimum requirement for applying to the program is to have an undergraduate degree (of at least three years of full-time study) majoring in economics (at least 1½ years of economics). Studies in mathematics and statistics are not required but strongly recommended. These subjects are therefore defined as core subjects for applicants.

Table 1: Educational background and reasons for starting the Ph.D. program in Economics.

Another set of questions concern the doctoral students engagement in their community and in the public debate. Do they participate? Do they write debate articles in newspapers, magazines or professional journals? If not, why? Is it due to a lack of interest or a lack of time and incentives? As shown in *Table 2,* 16 percent of the respondents were active members of a volunteer organization and/or political party, 17 percent of the respondents had during their time in the doctoral program published a debate article. Interestingly, there was only a one percent overlap between these groups meaning that at least 32 percent of the doctoral students express

[9] As a point of speculation one could, based on our survey results, argue that students who choose economics rather than any other field in the social sciences do so because of the relatively greater emphasis on formal and quantitative work. After all, most have in their undergraduate studies encountered other approaches and have still chosen economics.

some form of civic engagement. In terms of characteristics, this group of "active" students seems representative, with a slight overrepresentation of women, and a slight underrepresentation of foreign students.[10] It does not seem to be the case that students with stronger mathematics backgrounds are less active. If anything, the students with strong backgrounds in both mathematics/statistics and social science/humanities are overrepresented in the group which has written debate articles.

Students who had not written debate articles were given a choice of three alternatives to answer why: (1) not interested, (2) lack of time and/or incentives, (3) other reason. 80 percent of the respondents chose alternative number (2), i.e. lack of time and/or incentives while only 3 percent answered that they were not interested. Thus, it seems as if it is a lack of time and incentives which lies behind the "observed disinterest" of students, not a lack of interest.

Participation in the economic policy debate

Share of students who has written an economic debate/policy article during graduate school	17%
Share of students who are active members of a volunteer organization and/or a political party	16%

Reason for not participating

Lack of time and/or incentives	80%
Not interested	3%
Other reason	17%

*Characteristics of active students**

Composition of undergraduate studies among active students

Economics/Mathematics/Statistics		Social sci/Humanities (other than Economics)	
Less than 2 years:	32%	Less than ½ year:	26%
2-3 years:	32%	½-1½ years:	32%
More than 3 years:	37%	More than 1½ years:	42%

Alternative ranked as the most important reason for entering graduate school.

Interest in social science	68%
Desire to serve the community	16%
Future career possibilities	11%
Future earnings	5%

*Active students are those who are either active members of a volounteer organisation or have written a debate/policy article in economics during their time in graduate school

Table 2: Participation in the policy debate and background characteristics of active students.

[10] The underrepresentation of foreign students is hardly surprising since it is clearly more difficult to engage in these activities during the first years in a new environment.

In summary, the above information suggests to us that a typical graduate student at the Stockholm Doctoral Program in Economics has the following characteristics in terms of educational background and participation in the policy debate:

- A broad educational background without any clear signs of early specialization. If anything a typical student has a strong background in *both* core subjects (Mathematics/Statistics/Economics) and other Social sciences and Humanities.

- Has chosen to do a Ph.D. in economics primarily because of an interest in social science, not in applied mathematics *per se*.

- Is unlikely to have written a debate/policy article during graduate school or to be active in a political party or volunteer organization, not due a lack of interest but due to a lack of time and/or incentives.

In terms of the questions raised in the introduction, this survey suggests that Economics as a subject is not attracting "one-legged" students, quite the opposite. Rather, to the extent that young economists are less interested in "real world problems", it is because this is what graduate school teaches them.

3 PARALLELS TO THE US DEBATE

In surprisingly many ways the outcome of this survey parallels the results in the study of American graduate students in the mid-1980's by David Colander and Arjo Klamer. Just as in their study, we find that the students who enter the graduate program in economics do so because they have an interest for understanding and contributing to society. As they put it: "If graduate schools are graduating *idiots savants* who have no interest in policy, it is not because students enter graduate

school with no interest" (p. 97, Colander and Klamer, 1987).[11] This statement is equally true for the students at the SDPE, fifteen years later.

Once in the program however, students find that the focus on top performance in the course work means that there is no time, nor any incentives, to engage in any side activities. It does not seem to matter how relevant the side activities would be for the development of them as economists.

Our results on the degree of participation in the policy debate or in other extracurricular activities are also similar to those reported by Colander and Klamer (1987). They report that the lack of time is the main reason for not pursuing their other (work related) interests. In our study 80 percent answer that it is lack of time and/or incentives which keeps them from engaging in policy relevant side activities on the side of regular graduate work, while only 3 percent of the non-active students say that it is a lack of interest.

So how can it be that the perceptions of graduate students in a typical European Ph.D. program in Economics are so alike those of their American counterparts 15 years ago. One possible answer is of course that this is what graduate economics inevitably is like. Graduate education is about forgetting the questions you want to study so that you can focus on learning techniques and methods. This is certainly not the view of anyone concerned with current graduate economics being too one-sided. Given that the findings of Colander and Klamer (1987) and others lead to the American Economic Association appointing a commission on graduate education in economics it also seems unlikely that this view was held by the "profession" in the US at the time.[12] Another possibility is that European schools forgot about the possible problems with the American programs they copied and did not pay much attention to the then ongoing US debate about graduate education.

[11] The *idiots savant*-reference is due to Robert Cuttner (1985), who in summarizing the views of Wassily Leontief and John Kenneth Galbraith writes: "Departments of economics are graduating a generation of *idiots savant,* brilliant at esoteric mathematics yet innocent of actual economic life."

[12] See Krueger et al. (1991) for references to why the commission was appointed.

4 WHAT (IF ANYTHING) SHOULD BE DONE?

Whether the above findings are a concern or not depends on one's view of what graduate education in economics should be about.

If one is of the opinion that the primary goal of the education is to teach students mathematics and econometrics for their own sake, then the fact that this is what students think is being done is nothing but encouraging. We do not, however, think that too many economists hold this view.

A much more common standpoint is that even though real-world problems and policy issues are considered important, one must *first* learn the tools, *then* apply them. We believe that such a view is problematic for at least three reasons. First, it assumes that the interest in real problems and policy can be put aside for years and then picked-up as if there was no intermission. Second, it implicitly assumes that there are no specific skills besides the theory and the techniques of the subject which are important. Once you know this you are automatically able to pose the relevant questions and write about them. Third, and perhaps most important, is the fact that part of graduate school is a "socialization process" when students learn what is valued by the profession. If students, especially during their first years, are told that it is exclusively theoretical skills that count, it is at least not unproblematic to sustain that applications and the formulation of relevant questions are equally important in the years to come.

If one thinks that European graduate education in economics could be improved given the current European debate and the issues brought to light by our survey, a starting point could be the recommendations of the American "Commission on Graduate Education in Economics". The summary recommendations of the distinguished group of professors forming the COGEE "to improve the overall quality of our profession" were the following:

- Reasonable requirements in mathematics, statistics, and economics were established and required as prerequisites for entry into core courses.

- Remedial courses were offered to those desiring to enter the graduate economics programs who had deficiencies in economics, mathematics, or statistics.

- Core courses were taught so that those having the prerequisites could focus on the economics being taught and with a view to balancing breadth and depth, with sufficient attention to applications and real-world linkages to encourage students to start applying the concepts themselves.

- The core should be regarded as a departmental "public good" and its content should be the concern of the entire department.

- Field courses should attempt to include more empirical applications, using empirical findings and economic puzzles to spur students. Papers should be required where possible, so that students began using their tools and gaining experience in writing prior to the dissertation stage.

- Greater attention to writing and communication skulls should be signalled by faculty attention, and by alerting students who are seriously deficient to opportunities for technical writing courses and other means of improving their skills.

- Efforts should be made, through department-wide seminars, increased effectiveness of workshops, and other means, to ease the transition from course work to dissertations.

- Most graduate programs are so similar that the return to intellectual product differentiation seems worth the risk for many departments. Departments should consider identifying their comparative advantages and be willing to concentrate their resources in several fields, rather than believing they must cover all fields.[13]

In addition to these points it seems natural, given the many expressions of methodological malcontent related to the so called "post-autistic economics move-

[13] See Krueger et al. (1991), p. 1052 .

ment", to think about how students can be given a deeper understanding of the methodology of economics. After all, fostering economists who simply learn to accept a certain way of doing economics is never desirable, regardless of whether one is opposed to, or in favour of the dominant methodology.

There have been no visible initiatives from the economics profession in Europe to evaluate European graduate programs and European graduate students in economics. Indeed, if there is a major difference between the debate in the US in the late 1980's and the recent discussions in Europe it lies in the fact that in Europe the initiatives to discuss the contents of the graduate education has mainly come from students. We think it is time for a European Commission on Graduate Education in Economics.

5 CONCLUSIONS

This article should be viewed as a contribution to the debate about the content and design of current and future graduate programs in Economics. Our goal in writing this article was twofold. First, we wanted to study the attitudes and background of students at what we think is a good representative of a strong European graduate program in economics, which in the early 1990's adopted a US-style structure. In particular, we wanted to answer the question of whether students who enter the program have a narrow background and have become less interested in real-world problems, or whether the incentives within the programs tend to create a focus on technique for it's own sake. Second, we wanted to compare our results to those found by Colander and Klamer (1987) in their study of US economics graduate students in the late 1980's and to compare the US debate at the time to the current European one to see what lessons can be drawn.

The results from our survey tell us that the typical graduate student in Economics has chosen to obtain a Ph.D. due to a strong interest in the social sciences rather than out of an interest in mathematics or statistics. Our "representative European graduate student" has a wide educational background, rather than one confined

only to the core subjects of economics, statistics and mathematics. Many graduate students have several years of studies behind them in humanities and other social sciences besides economics. They have entered a graduate program in Economics because they want to study relevant problems and they would like to participate in the public policy debate. Upon entering the Ph.D. program, however, they receive clear signals not to do so. The weight put on learning tools and techniques gives neither the time nor any incentives for such side activities. This creates frustration and also forms beliefs about what is most valued within the profession. On the other hand, if one is serious about making changes, we believe that these facts also imply that students would respond quite favorably to an alteration of the incentive structure toward an increased weight on the study and understanding of actual problems and more encouragement to participate in policy debates.

The extent to which our results correspond to those found when surveying American graduate students in economics in the late 1980's is surprising to us. This suggests that we could learn many things from the debate that took place in the US 15 years ago. But we also think that there are many aspects of the current European debate, such as the "post-autistic economics" movement, which were not on the agenda then. Perhaps a European Commission on Graduate Education in Economics should be appointed.

Finally, it is important to emphasize that the views expressed in this article should not be interpreted as if we believe there is some conflict between rigorous mathematical- or statistical analysis and social engagement. On the contrary, we are strong proponents of a rigorous analytical approach to important social questions. We would even go so far as to say that formal modelling tools are one of the strengths of economics relative to other approaches. This does not, however, imply that relevance can be neglected, nor that methodology should not be discussed.

Appendix

Below we have reproduced the questionnaire which was sent to all students in the Stockholm Doctoral Program in Economics. The answers were anonymous.

(1) How many credits/points did you have in mathematics, statistics and economics before you began at the SDPE?

[ ] < 80 [ ] 80 - 120 [ ] > 120

(2) How many credits/points did you have from courses in the social sciences and the humanities before you began studying at the SDPE?
Please exclude those credits/points in economics that you reported in question (1) above.

[ ] < 20 [ ] 20 - 60 [ ] > 60

(3) Have you ever written or co-authored a debate/policy article in economics since you enrolled in the SPDE?

[ ] Yes [ ] No

(4) If not, why?

[ ] Not interested
[ ] Lack of time and/or incentives within the SDPE to work on such articles.
[ ] Other

If Other, please write a short explanation here...

(5) Are you an active member of a volunteer organization and/or political

party?

[ ] Yes [ ] No

(6) Why did you choose to begin a Ph.D. in economics?
Please rank the following alternatives from 1 to 6 by putting a number in the box next to each statement, e.g. [2].

[ ] My interest in math and/or statistics
[ ] My interest in the social sciences
[ ] Future career possibilities
[ ] My desire to serve in the community
[ ] To increase my earning potential
[ ] Other

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