So You Want To Go To Econ Grad School. . .

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I get asked a number of questions each year by students who are considering economics graduate school and want additional information to either help them determine if they want to go or to help them decide how to prepare once they have decided. I thought it might be helpful to provide an overview of the answers to some of the most common questions. The guidelines and suggestions I provide here are my opinions only and should not be considered unequivocal facts. Reasonable people may disagree on some of these points and I encourage all students interested in graduate school to discuss the matter with several different professors (in part because it will help them write better recommendation letters for you later).

Master's vs. Ph.D.

The first question a student has to consider in thinking about graduate programs is whether they are interested in a MA or Ph.D. program. There are a couple of different ways of looking at this issue.

The first consideration should be what type of job you want at the other end. If your desire is to be a professor, you have to go for the Ph.D. There are, however, many other job prospects for people with both degrees. The primary employers of people with advanced degrees other than Universities are consulting firms and government organizations. The types of jobs available in both sometimes depend on the degree. The standard arrangement in most such organizations is that on any given project, it will be those with a Ph.D. who might design a program of investigation on an issue while those with MA degrees might work on carrying out parts of that research program. On the other hand, in many cases you will find that organizations do not base their hierarchy on degrees. Instead, they will base assignments, success and promotions purely on demonstrated ability. You will also find some employers, such as the US Dept. of Agriculture, who will hire at the MA level and then sponsor the Ph.D.'s of successful employees.

The decision of which degree to go for also depends on your short-term willingness to endure hard work (especially related to doing mathematics) and the type of student you are. If you want a short, to the point program leading to a degree, then a MA is what you want. These programs usually involve 1-2 years of coursework and supervised projects. The Ph.D., however, is much more open ended. Typically programs begin with 2 years of course work followed by the student writing a dissertation. The

dissertation phase consists of work that is almost entirely independent work (you will have an advisor who may help some, but hopefully not much more than occasionally steering you away from really bad ideas) and it requires a highly self-motivated student to complete it. The dissertation may take 2-4 years depending on a variety of variables. If you are an independent thinker and self-starter who is willing to engage in a great deal of hard work, then you might want to pursue a Ph.D.

You should also be aware that Ph.D. programs require a reasonable degree of mathematical sophistication. Modern economics is based heavily on mathematical analysis in various forms. Your ultimate interests may involve areas that require less mathematical sophistication, but you should still be prepared to face a substantial amount of mathematics in your required coursework. This is usually one of the most surprising things to students starting economics graduate school because undergraduate economics is by and large not very mathematical. The material you will see from day 1 of a Ph.D. program will be.

There is a middle ground to consider in making the decision of which degree to pursue. There are two ways of obtaining a MA degree. There are a few terminal MA programs in the country (FSU has one) that are set up specifically to result in a MA degree that does not allow you to continue on to a Ph.D. directly. These programs are usually highly applied and quantitative in nature meaning that their focus is on the practical issues involved in performing data analysis using statistics and econometrics. You can also achieve a MA degree as a midpoint in a Ph.D. program. If you start a Ph.D. program, you will typically receive a MA after completing your first 2 years of coursework. At that time you can, and many do, leave instead of continuing on to the Ph.D. There is a large difference in the material for this version of the MA degree, though, as the courses will concentrate much more on abstract theory and be more mathematically intensive rather than on practical aspects of analysis and specific applications as you would find in the terminal MA programs. Going this route allows you the option of completing a Ph.D. after the MA. You can, of course, obtain a terminal MA and then enter into a Ph.D. program at a later date. This will take longer as you would still have to complete the coursework for the Ph.D. program (and receive a second MA degree), but what you learn in the more applied terminal MA program might help prepare you to be a better researcher at the Ph.D. level and may improve your chances of getting into a better school.

Choosing a School

The choice of which school to attend or which schools to apply to is quite a difficult one that will have a profound impact on your future career. If you are seeking to obtain a terminal MA degree then the best advice is to focus on schools in geographic proximity to where you want to work and beyond that favor those at higher ranked schools. Many schools have official or unofficial connections that graduates can use in finding jobs that will typically be stronger in the region of the country in which the school is located. Schools that have better national reputations will generally have better developed and geographically broader networks. You should therefore choose a school

that gives you the best chance for finding a job in the geographic region and field in which you are most interested.

Choosing a Ph.D. program is significantly more difficult. If you are intending to go for an academic job when you graduate, my advice is to attend the school with the highest ranking you can. The ranking of the school your Ph.D. is from will have a significant impact on your job prospects. This is particularly true if your goal is to go to become an academic researcher and is less of an issue if your goal is to find an academic position focused on teaching or a job in the private or government sectors. There are some caveats to this rule though. Certain schools are stronger in certain areas and trading strength in the area you want to work in against an overall ranking is definitely worth considering. For example, if you wish to be a macroeconomist, do not under any circumstances go to CalTech. It is a great school and highly ranked, but it has no macroeconomics program. If you have some idea regarding what area you wish to work in, you should talk to professors who work in that area to see what schools would be good matches for you. If you are less certain of what you are interested in, you might want to consider programs that have a variety of strengths to give you more options.

If your goal is the academic job market, you will substantially help yourself by getting into a top 10 or top 20 program. That is not to say that you can not get academic jobs with a Ph.D. from a lower ranked school. You absolutely can. This is in part because there are probably 50 schools that consider themselves top 20 and depending on what ranking you look at, they may be. The best way to choose schools to apply to is to discuss the issue with a few professors you trust. Explain to them your career goals and your record and they can likely help you find a few schools to target. In general you should apply to 8-10 programs that cover a wide range of rankings to maximize your chances. We will return to this point in the next section.

Part of choosing a school also has to do with financing your studies. Most schools will offer fellowships in the form of teaching or research assistantships that will cover your tuition and a small stipend. Some schools will begin this in your first year, while others will only fund a few students in their first year and bring successful students on to funding in their second year. This explains one of the other reasons to apply to so many schools as this will also maximize your chances of getting first year funding. While the stipends are not much, they are usually enough to get by on which should mean that after your first year, you should not have to take out many loans to pay for your degree.

Getting Into and Preparing for Grad School

There are two primary determinants of entrance into grad school. The first is your quantitative or math GRE score and second is the number (and your grade point in) math courses you have taken. As I mentioned before, Ph.D. level economics courses use a substantial amount of mathematics while most undergraduate economics courses use little more than 8th grade algebra. Maximizing your chances of being accepted into grad school and doing well involves demonstrating to the schools that you are prepared to deal with the transition.

One way to demonstrate your preparation for the mathematical rigor of a PhD program is to get a good score on the math section of the GRE. So practice for it and take it seriously even if you are quite skilled in mathematics. You will still want to review to make sure you do not make stupid mistakes or forget how to do certain types of problems you haven't seen in 4 years. Although there are no real hard cutoffs for scores, if you want to go to a top PhD program, a score of 750 or higher will be quite helpful (and probably mandatory) in doing so. To get into most reasonable programs a 700 is about the minimum cutoff. If your score is lower, that will not necessarily eliminate your application at some lower ranked schools, but you will want to make sure the rest of your record is strong enough to make up for the lower score. Your score on the verbal section is not as important (at least for native English speakers). Don't ignore it, but don't worry about it too much either. A good score on it will not make up for a low score on the math section. Required scores on the GRE are of course lower if applying to terminal MA programs.

While the GRE is important to the application, a good score on it likely means little in determining your ultimate success once you are in the program. Of importance to both admission and success is your math background. For a terminal MA program you will typically find that one semester each of calculus and statistics will be sufficient to meet the admission requirements. For a PhD program, more will be required. At a minimum you must have taken a few calculus courses (**NOT** business calc) and some combination of linear algebra, probability and statistics. I strongly recommend taking the 3 calculus courses offered and all of these additional courses. The best prepared students will have math courses beyond these as well. The next course to take is Intro to Advanced Math (MGF 3301) as it will introduce you to how to do proofs. It is occasionally possible to substitute Discrete Math I (MAD 2104) for this purpose, but depending on who is teaching it that course it can be taught with more of an emphasis on topics useful for computer scientists than economists. Beyond these courses, the other most useful courses to think about taking are Optimization, Advanced Calculus and Intro to Analysis. The math dept. also offers courses in computational methods that may also be of use depending on the particular area of economics in which you are interested. While you may find many of these courses to be very difficult and you may not see the connection to economics while taking them, when you find yourself in the middle of your first year of grad school, you will thank me (and I expect an apology for all the times you cursed my name while taking the courses!).

There are also certain courses in the economics department that are more geared towards those going on to grad school that it will be useful to take. Introduction to Mathematical Economics is a course designed explicitly to serve as a bridge between undergraduate and graduate economics. It is a good class to take to see if you like the more rigorous approach. The econometrics and game theory courses are also useful as they are taught closer to the graduate style than many other courses in the department. Beyond those courses, you should take any other courses in the department whose topics interest you (and if you are intending to obtain a Ph.D. in the area, I would imagine you should be able to find several).

As I said above, you should apply to at least 8 programs as there is a great deal of randomness in the application process. Schools receive a large number of qualified applicants every year and somehow they have to whittle that down to accepting just 20-25. Don't take rejections personally as they happened to the best of us.

In putting your applications together, they will usually ask for a statement of interest. This statement can rarely help you but it might hurt you. I recommend just explaining your interest in economics and perhaps in that school in a straightforward and honest manner. I do not recommend inflating or exaggerating your knowledge or proposing a very specific research proposal for a dissertation. I do recommend allowing the professors writing your recommendations to read your statement. This serves two purposes. First, they may be able to give you feedback on it and second it will help them write better letters.

Finally, you are expected to provide 2-4 letters of recommendation to each school. You should approach professors about this early and give them plenty of time to write the letter. It is also a good idea to check with them to make sure they have written it well before the due date as our memories are not always great and things sometimes slip through the cracks. You should get recommendations primarily from economics faculty but a recommendation from a math professor probably won't hurt if you can get one. They should all be from professors you have either had in a class or worked with you on a project. Also, if your goal is to get into a high ranked school you will be best served by getting recommendations from faculty who are highly productive in their research. A good recent publication record is a sign that that faculty member's opinion may be taken more seriously. Be sure to also check to see whether faculty have connections at particular schools in which you are interested as those connections may be very valuable in helping you get accepted.

Where Can You Go For More Information?

You will find a wealth of information on the web. Here are just a few sites that you may find useful:

Sample rankings of economics departments (As I said above though, take all rankings with a bag or two of salt. Most rankings are quite out of date at this point and they have substantial measurement error in them to begin with.)

1. http://homepages.ulb.ac.be/~tcoupe/ranking.html
2. http://www.ncat.edu/%7Eneconasc/dvrank.html

If you don't trust me or just want some other views on the grad school application process, here are two other write-ups that are quite good:

1. http://www.stanford.edu/~athey/gradadv.html
2. http://www.georgetown.edu/faculty/gg58/GradSchool.html

There is another website that has advice from a broad range of people and it includes discussion forums for those applying to grad school so you can compare your experience with that of others (be warned though, much of the information posted on such boards is not always reliable). You can often find profiles of people who have applied for graduate school with their accept/reject history at each school. That is very useful information in helping you figure out where to apply as it can give you an idea of the sort of record different schools are looking for (another warning, those posting are likely to be the more prepared students because the less prepared are unlikely to be focused enough to participate in an on-line discussion forum).

1. http://www.econphd.net/

For those interested in the academic job market, you might want some information on potential salaries and the market in general. Follow this link to a set of surveys on the academic job market:

1. Http://cber.uark.edu/default.asp?show=pubs

Finally, here is a link to a site set up by the American Economics Association with information about economics graduate school.

1. http://www.vanderbilt.edu/AEA/gradstudents/