

# Unveiling the motivation and push factors of pursuing Economics Doctoral Degrees in China

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The research is financed by the Fundamental Research Funds for the Central Universities. No. SWU1309312.

## Abstract

It generally takes a lot of time and hard-work to complete a PhD program. Thus, most Chinese universities cannot full fill their PhD admission plans just a few years ago. However, things have changed dramatically over the years. Nowadays, the rate of acceptance for PhD applicants can be well below twenty percent even in the second tier universities. This trend in education will have large impact on the educational system, students as well as the labor market. It is worth questioning why more and more Chinese people are interested in pursuing a PhD degree, especially in Economics related majors. Therefore, this paper intends to figure out the push factors and motivations behind the growing popularity of PhD programs in Economics, through a combined method of questionnaire surveys and interviews. Specifically, 20 PhD students in Economics related majors at Graduate School of Chinese Academy of Social Sciences were randomly selected to complete a questionnaire. First, general information were collected though the first 5 questions. Next, 21 specific questions were asked, covering all possible explanations and implications for the popularity of the PhD programs. Then, interviews were conducted among these students to provide supplementary information. Finally, the results were summarized and analyzed. Conclusions drawn from the results suggested that students decision towards education could have been affected by factors such as social recognition, government policies and current job market. This paper provides rich information on China's highest education and high-end talents, which can be useful for researchers, educational institutions, employers and future students.

**Key words:** Doctoral education; Economics education; Attractiveness of education; Quality of education; Returns of education; Value of PhD; Driving forces; Incentives

## 1. Introduction

### *Background*

Doctoral degree is the highest degree that one person can ever receive. Moreover, it is usually recognized as a symbol of professional knowledge and skills in the given field. In order to obtain a PhD degree, however, students have to pass strict entrance exams and qualifying exams and participate in years of professional research trainings. Therefore, it is reasonable to assume that there is only a small fraction of population who holds a PhD degree.

Just a few years ago, most of the Chinese universities cannot full fill their PhD admission plans. It means almost any qualified student who wants to pursue a PhD degree can easily receive an admission. However, things have changed dramatically over the years. Nowadays, more and more Chinese people take the entrance examinations for PhD admissions. There are no few examples of students who have taken the entrance exams more than three times which are arranged once a year. It is especially the case for the Economics related majors which are always the hot majors in China. It is worth noting that the major classification in China may be different from other countries as Economics is regarded as a rather broad concept. Specifically, in China, the concept of Economics related majors usually refers to Economics, Finance, International Economics and Trade and sometimes accounting. Throughout the paper, the meaning of the Economics related majors complies with the Chinese classification as explained earlier.

People have good reasons to pursue a PhD degree. First, a doctoral degree can be seen as a stepping stone towards careers in academia. If someone has strong interest in certain field and wants to dedicate one's life to research, the training in PhD programs will be perfect preparations for their research career, where they are going to learn fundamental knowledge, apply research tools and cultivate their research skills under the supervision of their experienced supervisors. Next, there is a good chance for a PhD degree holder to receive a decent income as they are often needed as an expert in their field of study. In other words, they are paid more to do jobs that other people cannot do or do as well. In fact, there was an outstanding record of average salary for Economics related majors in previous years. Last, they are thought of as elites thus receive many respects from

the society. This is because their research could make contributions to the whole society and human races. Examples can be found easily among scientists for all fields.

However, it is neither necessary nor economic for everyone to pursue a doctoral degree. First, most of the jobs do not need such highly specialized professional knowledge or skills from PhD education. For instance, though Bill Gates does not even complete his bachelor's degree, it does not stop him from building Microsoft and earning billions of dollars. Second, it not only takes large amount of time but also great efforts to obtain the degree. For example, many PhD programs require students to study for one or two years of comprehensive course works plus two or more years of intensive research. Finally, there are explicit and implicit costs which cannot be ignored. The typical explicit costs include tuition fees, costs of books, accommodations, etc while the largest implicit cost is probably the salaries from a full-time job one could have earned if he or she does not choose to spend the time in school instead. Thus, it should be a very discreet decision to make to invest in PhD study.

#### *Statement of the Problem*

Whatever benefits and returns the PhD degree can bring, it is clearly not a good idea for everyone. Considering the tremendous population, if more and more Chinese people engage in pursuing a PhD in Economics, it can cause serious problems. For example, it can create higher entrance barriers for those qualified candidates who could have receive admission easier. In addition, Golde & Dore (2001) pointed out the mismatch of purposes in doctoral education. Though people may have individual reasons for pursuing a PhD degree, the growing popularity of PhD programs in recent years cannot be simply justified by personal preferences and interests. Therefore, it is worth questioning what are the push factors and motivations for the increasing popularity of doctoral education programs in Economics related majors in China? Are the students persuaded by their friends and colleges to pursue for higher education? Do the job market conditions drive people into higher education? This paper tried to identify and explain the incentives and motivations behind the growing popularity of PhD education.

## **2. Review of Literature**

Previous studies have already shown concerns about the PhD education. Some research discovered a strong correlation between the job market and PhD education. It was argued out that a poor job market tended to result in inefficient scientific production because good students lacked incentives to make endeavors. A good example is the research of Mangematin (1999) which attempted to compare valuing criteria for hiring PhD graduates in different economic sectors and examine both the incentives of students and motivations of the PhD supervisors to hire students. First, three important hypotheses were made: all types of employers value the PhD degree, previous training before the PhD has little influence on recruitment after the PhD and all PhD students conform to academic criteria whatever their job expectations are. Then, hypotheses were testified by a questionnaire survey conducted among 400 engineering science PhD students from a selected university in France. In the end, three important conclusions have been drawn as follows. The point has been made that "trajectories are not flexible and that PhD graduates have to choose a trajectory when their level of information is at its lowest". Another finding of this research is that the cost of switching between academia and the private sector for students' first job after PhD depends on the intensity of publication and whether or not there were collaborations with the private sector during their PhD. It has also been found that the existence of two sectors and two sets of evaluating criteria can have influence on the efficiencies and productiveness of PhD education and scientific production.

Mangematin (1999) is not the only paper which concerned about the PhD education. Comprehensive studies have been conducted to investigate PhD education in other countries as well, for example Golde & Dore (2001). It is worth noting that their research was on the basis of a large scale survey which was conducted among third grade PhD students in 11 arts and sciences disciplines from 27 universities and one cross-institutional program. 4,114 copies of feedbacks were received which provided a high-quality data base to be analyzed. Thus, the study was able to cover various aspects of PhD education from students' perspective, such as whether students have perfect information of the PhD programs e.g. the contents, requirements and process, the demand of the PhD students and the effectiveness of doctoral program. It has been argued that a lot of students were not fully informed of PhD program. Moreover, it was stated that the training doctoral students received did neither match their demand nor was career oriented. As noted by Golde & Dore (2001), there existed three ways of "mismatch between the purpose of doctoral education, aspirations of the students, and the realities of their careers. The

dilemma was that PhD programs trainings focused too much on preparing doctoral students for careers as faculty members while the supply of these types of job openings were shrinking permanently. It is discouraging to realize that the same dilemma might be encountered by China as well.

Luckily, researchers have already paid their attentions to the education for Chinese students. After the Cultural Revolution in China, the value of education was recognized again. As the economy blossomed and the personal income increased, many Chinese parents started to save for the investment in their children's education which partly contributed the extraordinarily high saving rate in China. In recent years, China has become one of the largest source countries of the stream of cross-border mobility of students and (Li and Bray 2007). Li and Bray (2007) studied and analyzed the characteristics of the mainland Chinese students in Hong Kong and Macau, and their reasons for choosing to study in the two territories at three levels i.e. the levels of systems, institutions and individuals. It suggested that there existed both excess demand and diverse demand for education among the stream of cross-border mobility of students. It is worth noting that the motives of students were categorized into "academic, economic, social and cultural, and political" (Li and Bray 2007: 5), which provided some ideas for my questionnaire design.

### **3. Design and Measurements**

The survey was conducted with a combined method of questionnaire and interviews with the following design and measurements. In order to make the questionnaire friendly and time efficient, all of the questions were designed to be close or half-open, while interviews were conducted to supplement rich and complex views of the respondents where students were invited to talk freely about their feelings, fears, anxieties, opinions, suggestions, etc. The sample constituted 20 PhD students studying Economics related majors at Graduate School of Chinese Academy of Social Sciences by random selection, with 5 of these participants randomly chosen to be deeply interviewed. The participants were asked to fill out a questionnaire comprising 26 questions in total. Some questions collected facts, such as students' age while others asked about PhD students' opinions, e.g. their satisfaction for their undergraduate education.

The first part of the questionnaire was composed of 5 questions asking about the general information of the students while the second part of the questionnaire was consisted of 21 questions aiming directly at investigating the incentives and motivations of the PhD students. The second part of the questionnaire covered academic, economic, social and cultural, and political aspects, therefore can be divided into four sections accordingly. Specifically, the questions starting from Question 6 can be classified according to their purposes as follows: Question 6-9 measured the peer effect; Question 10-15 evaluated students' knowledge and satisfaction of education; Question 16-22 compared the costs and benefits of their PhD study; Question 23-26 asked about students' demand and expectations of the PhD programs.

### **4. Results**

The 20 respondents comprised 11 males and 9 females, with 75% of who studied full-time and 70% were younger than 30 years old. 75% of the respondents worked in the public sector at present or before application among who 80% earned less than RMB 10,000 per month, while 25% of students had not worked before, thus had no income.

Findings of Question 6-9 were as follows. The average highest degree in the social network of the majority of students was master's degree, chosen by 80%; followed by doctoral degree, selected by 20%. 90% of the participants knew more than three acquaintances who had pursued for higher degrees in the recent five years. All the families of the students were at least neutral towards their study with 90% at least supportive. 90% of these doctoral students preferred to start the program earlier or keep the original schedule.

50% of students found the undergraduate and master's education in China satisfactory, followed by poor, chosen by 30%. Median was most frequently selected for the difference between the master's and doctoral education, chosen by 45% followed by large and very large, each selected by 20%. 70% of the participants suggested that they had complete information about the targeted programs before application. 80% of the students thought the requirements of the programs to be fair and 90% at least neutrally liked reading and writing in their field. The average hours to be allocated to research diverged from the students choices. These were the results from Question 10-15.

65% of the participants would either quit or have a second thought, if the programs required five years or longer full-time study. At least 80% of the students had no complaints about the tuitions and fees. In terms of sources of funding for education, personal savings was the most popular source, chosen by 50%, followed by scholarship 35%. Neutral was the favorite choice for both the impact of government policy and the current job market, respectively chosen by 60% and 65%. The favorite institution students wanted to work for after graduation was academia, selected by 70%, while one wanted to work for the private sector. 85% of the students believed that their career advancement preferred higher degrees.

The results of the last four questions were as follows. 55% of the students started to study Economics related fields from undergraduate period. In looking at the three most important factors for their major choices, 90% selected personal interest, followed by job opportunities with 75%, then social recognition with 40%. In addition, the rank of importance indicated by most students from the most to the least important was respectively, personal interest, job opportunities and social recognition. All of the students at least neutrally agreed about the promising future of their current majors. In terms of the three most valuable qualities of the PhD programs, knowledge was selected by 70%, followed by the degree itself and supervisor, each selected by 60%, while the rank of importance indicated by from the most to the least important was respectively, the degree itself, knowledge and supervisor. The results were confirmed by interviews as well.

## 5. Conclusions

What are the driving factors and motivations for the increasing popularity of doctoral education programs in Economics related majors in China? Generally, four major driving factors can be found by analyzing the results as follows. First, it was possible that the popularity of PhD education in Economics was influenced by peer effect. In other words, some students pursue a doctoral degree simply because other people are doing this. It is reasonable to assume a number of PhD pursuers are subject to the peer effect, since the data indicated that the vast majority of the sampled students were surrounded by well educated friends and colleagues who had seek for higher education recently. Another incentive for the students to enroll in PhD programs is the need of better education, as the majority students were not satisfied with their undergraduate and master's education and tended to believe that the doctoral education would be significantly different. Next, the students could have been attracted by the reasonable costs and requirements of these PhD programs. In fact, only one fifth of the respondents made negative comments on costs and requirements while most of the students graded the fees and requirements as fair. Finally, many students may be motivated by the expectation of promising future for higher education in Economics related fields. For instance, a large number of students believed that the doctoral education will bring about greater chances of career advancements, alumni resources and social recognition, etc.

## 6. Discussion

In the round of trial survey, three copies of the questionnaire were initially handed out and the respondents were quite helpful in making the final survey more efficient. One of the student pointed out that the range of choices for Question 7 should be larger and the order of some questions were not logical enough, thus they were modified accordingly for the final questionnaire for massive survey. Besides, the instructions for two of the questions could not be easily understood which had to be rewritten in the final questionnaire.

## 7. Recommendations

### 7.1 Research Recommendations

For further research, the following extensions can be applied. First, the size of the sample should be enlarged. In fact, the sample ought to include students of every grade or even PhD applicants at all the universities and institutes which provide PhD programs in Economics related majors, if the budget and time allow. Next, more questions should be included to make the survey more comprehensive. For instance, instead of asking general question about political factors, more specific questions can be asked; Hukou, a district citizen identification card in China, was suggested as a factor to be considered by one interviewee during the interview process. Then, the design of the questionnaire needs to be further polished such as the order and the choices. Finally, further research may generate more meaningful information by following the performance of the students in school and their career track.

### 7.2 Issue-related Recommendations

Considering the driving factors behind the popularity of PhD education, the following recommendations are provided for students, the universities and the government respectively. First, current students should design their

study plans carefully according to the requirements of the PhD programs and their desired future careers. Next, future students ought to take the initiative to learn as much as they can about the programs such as the purposes, the requirements, the process and the employment data before application. Then, the universities should adjust the PhD programs to match the trainings of school with the demands of the students and the society. Perhaps, the universities can hold information forums or communicate with the perspective PhD students through other methods regularly, to discover the needs of the students. Finally, the government can be of great help by making consistent and cautious talent incentive policies.

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## Appendices

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## Questionnaire on popularity of PhD programs in Economics

### Instruction

I am a researcher from Graduate School of Chinese Academy of Social Sciences. I am undertaking a research to investigate the increasing popularity of PhD programs in Economics in China, the purpose of which is to figure out the underlined motivations and driven factors.

The survey will take about 20 minutes to complete. All answers will

be kept anonymous and strictly confidential which will only be used for research purposes. Your name and address will NOT BE CONNECTED to your answers. Please answer the questions candidly and to the best of your ability. There are no wrong responses for each question. Please tick(✓) the boxes to the left of the answers to select and choose one answer only for each question unless instructed otherwise.

I sincerely appreciate your time and effort!

1. What's your gender?

male             female

2. How old are you?

I am \_\_ \_ years old.

3. Which type of institutions do you work for or did you work for?  
Please tick your most recent employer before PhD application.

academia     government     state owned enterprises

private Sector     other\_\_ \_

4. What is your pattern of enrollment?

full-time             part-time

5. How much is your current monthly salary or was your salary of your last job?

below 5000    5,000-10,000    10,000+    not applicable

6. What is the average highest degree of your friends and colleagues?

below bachelor    bachelor    master    PhD

7. How many people around you have tried to pursue a higher degree in the recent five years?

below 3    3-4    5-6    7-8    9+

8. Are your family members supportive towards your study?

strongly supportive    supportive    neutral    against    strongly against

9. Do you prefer to enroll at a different time if allowed to choose?

yes, earlier    yes, later    no    I do not know

10. What do you think about the education for undergraduates and masters in China? Please tick a number on the scale 1-5 (where 1=very good, 3=satisfactory, 5= very poor)

1    2    3    4    5

11. What do you think about the difference between doctoral education and master's education in China?

very large    large    median    small    very small

12. Do you fully understand the purposes, requirements and the procedures of the program before application?

yes  no

13. What do you think about the requirements of the program?

extremely difficult  difficult  fair  easy  extremely easy

14. How do you like reading research papers and writing thesis in your PhD major?

very much  much  neutral  little  very little

15. How many hours a week on average are you willing to allocate to research?

less than 5  5-9  10-15  16-20  more than 20

16. If the program requires 5 years' or longer full time study, are you likely to enroll?

yes  no  I do not know

17. Do you think the tuitions and fees are reasonable?

yes  no  I do not know



18. How do you finance your costs of school? You can tick more than one.

scholarship  employer  personal savings  other\_\_\_

19. Do you think the talent incentive program of government encourages your further education?

strongly agree  agree  neutral  disagree  strongly disagree

20. Do you think your decision of further education was affected by the current job market?

strongly agree  agree  neutral  disagree  strongly disagree

21. Which type of employment do you prefer after graduation?

academia  government  state owned enterprises

private Sector  other\_\_\_

22. Does the career advancement for your current or future employment prefer higher degrees?

yes  no  I do not know

23. What is your undergraduate major? Select the one field that is closest to yours.

Economics related  Statistics  Mathematics  English

other\_\_\_

24. What are **three** most important factors you consider when selecting the major of study? Please first tick in the box. Then, rank them with 1, 2, 3 by writing the number to the left of the answers; 1=most important, 2=fairly important, 3=important.

personal interest       future earnings       requirements of the major

job opportunities       social recognition       broad application in life

other\_\_\_

25. Do you believe that your current major of study holds a promising future?

strongly agree       agree       neutral       disagree       strongly disagree

26. What do you value about the program? Please first tick **three** most relevant answers **only** in the box. Then, rank them with 1, 2, 3 by writing the number to the left of the answers; 1=most important, 2=fairly important, 3=important.

the degree itself       knowledge       career orientation

alumni resources       reputation of the institution       supervisor

research resources and facilities       other\_\_\_\_\_