

# Introduction: Rational PhD Glut

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## 1. What is the question of the paper?

According to some survey, there is a relatively large amount of PhD students can't get an ideal job, either research or education purpose. However, as this situation becomes a common knowledge, there is still a growing glut of PhDs. It's weird that the market system seems to not work well as we expected that it can't eliminate the unbalance for some reasons.

## 2. Why should we care about it?

This problem is widely obvious in Taiwan, and there should be some links to the high educated-low wage problem. That is, besides blaming the bad reform of firms, the relatively high wage in school we will meet in the model may be attractive to students to make decisions.

## 3. What is the author's answer?

The author argues that such high compensation for doctoral students providing by the professors makes the occupation choices seems weird. The twisted but rational behave made by young agents causes the oversupply problem in future.

## 4. How did the author get there?

Developing an occupational choice model based on OLG structure which is infinite discrete time, two periods, constant ratio increase of population. In the young period one may choose whether or not to be a doctoral student and receive a probability to become professor when turning to the old period.

In the knowledge production part, old professor hires doctoral student to product knowledge and sells to the young agent. With the professor decisions, the author determined the amount of students (in particular, the equilibrium path) to be doctoral here. Solving the whole problems, the result shows that as the wage paid to students getting higher, it may attract more students and makes the probability to become professor lower, which in terms the glut of PhDs.

## 5. Example:

In 2015, the Ministry of Education decides to reduce 15% of doctoral students, probably 1000 student per year. Besides, they turn to provide higher scholarship for the students who behave well. Will this be helpful for solving the glut problem or knowledge accumulation? It may be interesting in future.

The glut problem is worldwide, the doctoral students in US also face the unemployment problems especially the life science apartment. A book, *How Economics Shapes Science*, which talks about the problems attributes the result to the demand of low cost doctoral students by professors, which matches this paper.