

Analysis of “Up-or-Out Contracts” System based on Game Theory

Li Changqing, Wang Xiuqing

Inner Mongolia University of Technology, Inner Mongolia China
1148412079@qq.com

Abstract: *In recent years, major colleges and universities have launched the "Up-or-Out Contracts" personnel system, intended to encourage teachers' positive attitude. But in the process of implementing the system has led to different thinking. This paper introduces the game theory and uses the game theory knowledge examine the game process between teachers and college under the "Up-or-Out Contracts" system ,and establishes a commitment game model, which attempts to explain the mechanism of the connotation using the game theory.*

Keywords: *colleges and universities; Up-or-Out Contracts; Commitment Game.*

1. INTRODUCTION

"Up-or-Out Contracts" is a common employment system in many organizations .This system means that one employee is not good enough so that without lifted and will be dismissed automatically.

For example, in the United States, the young professor was examined in the first six years in office, If he past the examination, he will be promoted to the tenured professors and stay at this position to do long-term academic research and obtain lifetime job security; however if he failed the examination he will lost his professorships."Up-or-Out Contracts" is an important part of University Personnel Management System. Its main contents are teachers implement the appointment system and hierarchical management system, teaching assistant, lecturer and associate professor of fixed-term appointment "Up-or-Out Contracts"; professors have the right to teach in the long-term. On the other hand, the universities reform the teachers' employing system and strengthen teacher assessment simultaneously. According to the employment contract or duty requirements, colleges evaluate the teachers' performance of the contract and the completion of tasks during the employment, the examination results will as a reference for benefits and rewards or punishments.

2. THE INTRODUCTION OF GAME THEORY

Since the classic "Game Theory and Economic Behavior" come out, game theory has become a cornerstone of mainstream economics, and it has been widely used in many fields of economics. Game theory is the theory that studies the problem of person decision. In particular, it is the decision of the behavior of the main body and the balance of the decision-making.

This paper attempts to use game model of commitment to study the game process between individual teachers and the university under the "Up-or-Out Contracts" system, from the game point of view that the introduction of Colleges "Up-or-Out Contracts" system reflected in terms of employment equity superiority.

3. GAME MODEL

Suppose in an economy, the game participants are one of the universities and one teacher, the type of game is complete information static game, In other words, both sides have each other's information, game is game of a synchronized action. In the game between universities and teacher, we assume that

the universities and teachers are rational people, they are in pursuit of economic behavior to maximize their own interests. As one side of the game, the teacher's behavior are: effort or sleep, while as the other side of the game, the colleges are: lifting or not lifting.

In the game, teachers and universities are choosing their own actions by the principle of utility maximization. The implementation of the "Up-or-Out Contracts" system is a very important aspect in school reform, that is to say, lecturer and associate professor of the class teacher, are likely to be eliminated. "Up-or-Out Contracts" in fact can be understood as a commitment that universities do not suppress talents. Without such a commitment, talents might be buried, to be suppressed, a professor will not get fair treatment. This mechanism can be shown in fig.1.

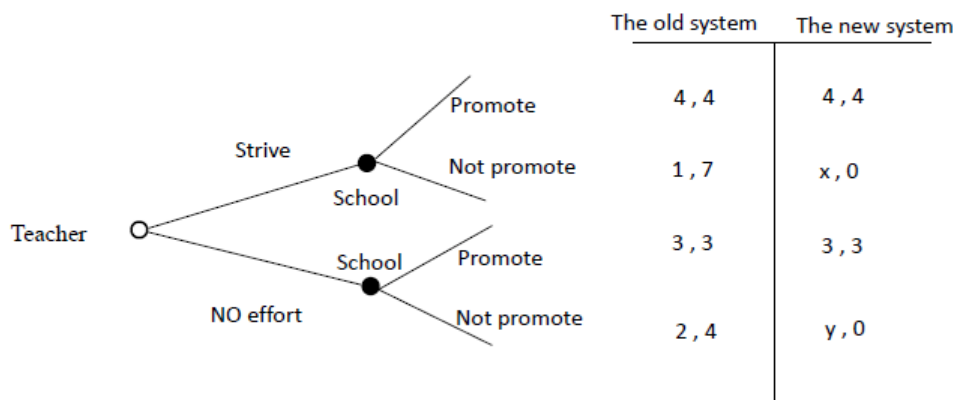


Fig1. "Up-or-Out Contracts" promotion game

In this game, teachers can choose to work hard or not work hard, schools can choose to promote or not promote. Assumed that staff work hard, a total value of 8 can be created. Under the old system, if school promotes teachers, teachers and school each scores 4; but if the school does not promote, teachers get 1 and school gets 7. If teachers do not work hard, the school also need to decide whether to upgrade. If the school promotes teachers, then teachers and school scores 3, add up to 6; if school does not upgrade teachers, then school gets 4, teachers get 2. Game balance is that the teachers do not work hard, and the school does not raise (or upgrade and does not raise nothing to do with the efforts of teachers).

"Up-or-Out Contracts" just may change the balance of the game. Under the new system of "Up-or-Out Contracts", if the teacher is enhanced because of the effort, both of them can get 4; But if the teacher works hard and not gets a promotion, he will choose to leave, so the school gets 0, after that the teacher's income is x (specifically dependent on his own ability and market value). If the teacher does not work hard, the school promotes him, both sides are 3 benefits. If the teacher does not work hard, the school does not promote him, he will choose to leave, so the school gets 0, he gets y. Thus, a new Nash equilibrium is got under the new system: If the teacher works hard, the school promotes him, the school will gets 4, does not raise the school received 0, so the school will choose to upgrade; if teachers do not work hard, even if they are enhanced by school, he only gets a value 3 that is lower than the case when he work hard and promoted by school, so the best choice is to work faculty. So the final result is teachers work hard and school promotes them.

4. DISCUSSION

In summary, the "Up-or-Out Contracts" employment system breaks the game balance of the old system and establishes a new game equilibrium: teachers work hard and enhanced by school. "Up-or-Out Contracts" system is to stimulate the vitality of teachers, promote young teachers become a useful person as soon as possible. This system also helps to establish and improve the employment mechanism, giving young teachers a platform to achieve them.

The reader may be in doubt: under the old system, if the school is unfair to teachers, teachers may continue to stay, but under the new system, if the school is unfair, teachers have to leave, is it not less fair? The superiority of the new system is precisely embodied here. Under the old system, no matter

how good a teacher, because he cannot leave the school, the school can still use his as so-called "cheap" without promotion, there is also no pressure to keep the school fair. Under the new system, if the school is unfair, excellent teachers will have a higher market price code, after the loss of talents, the real loss is the school. In other words, because of "Up-or-Out Contracts" system, the school must be fair. Therefore, the "Up-or-Out Contracts" system is a promise: do not ill-treat talents.

REFERENCES

- [1] Qian Xuchao; Wang Long. Based on analysis of customer satisfaction model sales commitments (J).Beijing Technology and Business University (Social Science Edition), 2004,19(1) .33-36
- [2] Zhang Weiyang. Game Theory and Information Economics (M) Shanghai: Shanghai People's Publishing House, 2004
- [3] new regulations of Nanjing University: new teachers Up-or-Out[N] People's Daily, 2013-08-02
- [4] Zheng Bin."Up-or-Out Contracts" pros and cons of the employment system analysis [J]. Market Modernization, 2007, (9) (HEAD).

AUTHORS' BIOGRAPHY

Li Changqing, is a professor of Inner Mongolia University of Technology. He is doctor of Management and doctoral tutor. His research directions are management decisions under uncertainty and energy economy.

Wang Xiuqing, is a student with master's degree of Inner Mongolia University of Technology. She comes from China .Her major is Management of Science and Engineering. Her research interests are energy economy.