

# New Homo Economicus Hypothesis and Its Influence to the Theoretical Model of Extended Service

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## Abstract

**The homo economicus hypothesis has been put forward by Adam Smith for only over a hundred years, but its academic and social impact is quite striking. However, in recent years, there have been a number of voices questioning the homo economicus hypothesis and its accuracy as a cornerstone of modern economics. The extended service model, as an important component of defense manpower economics, is developed in the analysis of extended service experience, which needs to systematically explain the current and future salary requirements. On the one hand, this paper reflects on the criticism of the homo economicus hypothesis, puts forward improvement Suggestions and expectations, and give definition to the hypothesis of 'new homo economicus hypothesis'. On the other hand, it will focus on the new homo economicus hypothesis and take its influence on the model of extended service into consideration.**

## Keywords

**Homo economicus hypothesis; extended service.**

## 1. INTRODUCTION

Homo economicus hypothesis is the cornerstone of economics and the fundamental hypothesis of the development of economics nowadays. Since Adam Smith put forward the idea of homo economicus, it has been widely discussed by scholars and the public. However, with the passage of time, the economic empire established on the hypothesis of homo economicus never stop, but extended its influence to all aspects of human society, giving birth to political economy, environmental economics, behavioral economics and other disciplines. Behind this, there must be its internal reasons, there must be its rationality and value. This paper attempts to explain and reflect on the basic assumption of economics from the perspective of the criticism facing with the hypothesis of homo economicus. This paper argues that with the development of economics, the homo economicus hypothesis should be further explained and amended, and its fundamental role in the field of empirical research and public decision-making should be consolidated. At the same time, this paper will analyze the relevant assumptions and research status of defense economics. Based on this, this paper discussed the relationship between the homo economicus hypothesis and defense economics, and puts forward some suggestions on the research of defense economics under the new homo economicus hypothesis.

## 2. HOMO ECONOMICUS HYPOTHESIS AND ITS CRITICISM

### 2.1. Homo Economicus Hypothesis

Homo economicus hypothesis, also known as the rational-economic man hypothesis, is the most basic premise hypothesis in western economics. Western economists point out that the

so-called 'homo economicus' hypothesis, also known as the 'rational-economics man' hypothesis, is a general abstraction of the basic characteristics of all the people engaged in economic activities in the economic society. The basic feature of this abstraction is that anyone who involved in economic activities is self-interest. In other words, the economic behavior adopted by each person engaged in economic activities is of the attempt to obtain the maximum economic benefits at their own minimum economic cost. Western economists believe that such people are the only 'rational people' in any economic activity; Otherwise, it's irrational.

The establishment and development of the homo economicus hypothesis are also gradual.

Adam Smith first put forward the thought of rational-economic man in *The Wealth of Nations*, which was first published in 1776. He endowed 'selfish man' with two characteristics-----self-interest and rationality. And on the basis of economic analysis, it announced the birth of the homo economicus hypothesis.

John Mill, a classical British economist, inherited the idea of the homo economicus hypothesis put forward by Smith and further abstracted the essence of 'homo economicus'. He proposed that 'The rationality of homo economicus is an economic motive abstracted from various motives of human behavior, among which the most fundamental one is the motive to maximize wealth. Economic man can optimize all opportunities, goals and means to achieve goals through cost-benefit calculation.'

According to neoclassical economics, personal interest is the only universal human motive that remains unchanged. Seeking profits while avoiding loss is the biggest behavioral characteristic of economic man. The 'rationality' of homo economicus finds expression in the pursuit of greatest economic benefit with the lowest economic cost.

## 2.2. Criticism of Homo Economicus Hypothesis

The criticism mainly includes the following two aspects.

First, it does not apply to the real situation of all people in social life. For example, Australian scholar Hugh Stratton used an example of 35-year-old woman Ellie's altruism in life and work to prove the inconformity of hypothesis and the social reality. Chinese scholars often use the example of Lei Feng to show that people are not completely self-interest, but often altruistic. And they have repeatedly stressed that a quantity of Lei Feng alike occur in social life.

Second, behavioural economic experiments confirm that people's behaviour would influenced by psychological factors, which often invalidate the objectives pursued by economic men. Behavioural experimental study carried out since the 1980s by professor Kahneman, the winner of 2002 Nobel Prize, against the rational-economic man supposition in terms of the individual cases. He criticized: "As for excessive belief in over-reliance on models, quantitatives and patterns, this is not only the defects of traditional economics, but also of great harm to modern thinking'. In the Chinese economic academia deeply influenced by Confucian moral and ethical thoughts, the criticism against homo economicus is more intense. Some scholars have argued that the homo economicus hypothesis assumes that citizens are cold-hearted, self-interested, money-oriented, unethical and irresponsible. At the same time, there have always been voices defending the homo economicus hypothesis in academic circles. For example, it is precisely because of people's pursuit of personal interests that public interests emerge. However, this kind of argument still emphasizes that 'homo economicus' is a simple pursuit of personal self-interest. Thus, it not only fails to dispel people's criticism of the rational man hypothesis, but also renders more misunderstandings to the homo economicus hypothesis.

### 3. REFLECTIONS ON THE HOMO ECONOMICUS HYPOTHESIS

#### 3.1. Is 'Homo Economicus' Really Selfish

One of the reasons the homo economicus hypothesis has been widely criticized is that it assumes social people as self-interested machines that make 'optimal' choices, rather than human beings. First, the definition of 'homo economicus' should not be 'an absolute egoist who maximizing his own economic interests'. Secondly, the self-interested behavior of 'homo economicus' will not hinder social progress, but constitute the public interest. Finally, a consensus on the hypothesis of 'homo economicus' will be a necessary basis for empirical research.

##### 3.1.1 'Homo economicus' does not imply complete self-interest

Economic behavior is rooted in the motivation and behavior of participants. However, the relationship between motivation and behavior is very complicated. Human behavior is often triggered by multiple motivations, and not all behaviors or reactions are motivated. Behavioural economics says that our lives are full of 'stupid things'. 'Research on masochism suggests that a large number of altruistic acts arise from deranged or selfish motives, and we should not always be fooled by the appearance of altruistic acts, which may conceal surprising hostility, jealousy and hatred.' 'Therefore, motivation classification should be based on the basic goals or needs pursued by all human beings.'

Steven Levitt pointed out that behavioral motivation can be generally classified into three types: economics motivation, social motivation and moral motivation. Moral motivation means that people do not want to do something that they think is morally wrong, social motivation means that people do not want others to see them do something that is contrary to social morality, and economic motivation is to pursue the maximization of economic benefits. These three kinds of motives are all common motives. Economic motives are intended to seek profits; Moral and social motives are intended to avoid harm and play a restraining role in wrong behaviors.

This paper argues that, with the development of The times, the hypothesis of "economic man" has actually expanded the definition of the margin, from "self-interested" psychological driving force to "satisfaction". "Satisfaction" should be divided into selfish and altruistic, both of which exist in all of us. This can also explain the donation behavior, the behavior of the hero and the market price decision theory, and even the phenomenon of "the same person can make both selfish choices on one occasion, and altruistic choices on another occasion", this kind of complicated phenomenon can not be explained by pure selfishness or altruistic theory, rather is the most realistic. Of course, it is necessary to note that egoistic psychology is obviously dominant in "satisfaction", which is homologous with the "individual" attribute of human beings.

##### 3.1.2 The self-interested behavior of 'homo economicus' is a part of the public interest

Not only does "economic man" have the complex "satisfaction" psychology of self-interest and altruism at the same time, but even the egoistic behavior is not harmful to "him". In fact, the smallest unit of interest itself is personal interest. Any public interest is composed of the collection of individual interests, and the loss of personal interests also means the loss of public interests.

In the Wealth of Nations, Adam Smith put forward the homo economicus and the famous theory of "the invisible hand" at the same time, which have profound influence. He believed that rational-economic man was influenced by the "invisible hand" while seeking to maximize individual interests. "Each man is constantly striving to find the best use of the capital at his disposal. ... On this occasion, guided by an invisible hand, he endeavored to achieve a purpose which he did not intend... His pursuit of his own interests often enable him to advance the interests of society more effectively than he would have otherwise. With the development of

economy, society and market, the automated regulation capacity of market is large enough. Thus, public decision-makers only need to conduct appropriate supervision and boundary control, which is enough to realize public interests through the process of realizing individual interests. In fact, it is the self-interested behavior of each individual that makes the overall economic behavior of the market develop orderly in a controllable range. Milton Hamilton, the winner of the Nobel Prize in economics in 1976, also quoted that "self-interest is more effective altruism than deliberate altruism". This paper agrees with the above views, and believes that the so-called personal interest arising from self-interested behavior is actually a component of the public interest, and is the micro expression of the public interest.

### **3.2.Homo Economicus Hypothesis Is Necessary for Empirical**

#### **3.2.1 Homo economicus hypothesis is an important part of economic research**

As early after Godel put forward the "Godel incompleteness theorem" in 1931, Hilbert's idea of proving the incompatibility of axiomatic system with formalism has been shattered. In short, the axiomatic provability and the system have no contradiction, and cannot be satisfied at the same time. This means that all modern science is based on certain assumptions, but it does not mean that empirical research is of no practical significance. The first reason is that through the development of research, the hypothesis conditions are also changing, and eventually converge toward the real world; Second, although the research results have no direct practical function, they can also guide practices from different aspects. Just as "fundamentalism" is not entirely true, extreme anti-scientific assumptions should not prevail. Each branch of modern economics is based on certain assumptions, through logical or mathematical deductive reasoning, and finally reach a certain conclusion. The closer the hypothesis is to reality, the closer the conclusion is to reality.

With the development of behavioral economics, economists have gradually realized that the traditional definition of economic man can no longer meet the new research needs, so the theory of "homo economicus" closer to real people is ready to come out. This is also the reason why this paper proposes to define the "homo economicus hypothesis" by replacing the "self interest" standard with the "satisfaction" standard. However, this does not mean that the basic status of economic man hypothesis for scientific research should be changed. On the contrary, a more modern definition of homo economicus will play a more important role in the empirical research of modern economics.

#### **3.2.2 Homo economicus hypothesis is the premise of the hypothesis of resource scarcity**

Economics is the study of the efficient allocation of scarce resources to competing USES in order to meet the maximum satisfaction of human desires. As the basic assumption of economics, which is equal to the hypothesis of economic man, the hypothesis of resource scarcity has never been questioned.

This paper argues that the homo economicus hypothesis is the premise of the hypothesis of resource scarcity. The reasons are as follows:

First, resource scarcity is not the fundamental principle that predates the homo economicus hypothesis. Sometimes we have enough resources to meet people's needs, such as air and nuclear power. And some resources are not scarce in the beginning, but become scarce as people develop them. For example, before the era of great navigation, the ocean was by no means scarce for human beings. However, after the development of the ocean, people had higher demands on the utilization of resources and required to compete for the huge development potential of the ocean for both individual and collective interests. Therefore, countries began to have disputes over maritime rights and interests. It is precisely the motivation of people's infinite pursuit of demand satisfaction that leads to the scarcity of resources and lays the foundation of the homo

economicus hypothesis. From this perspective, the homo economicus hypothesis is symbiotic with the hypothesis of resource scarcity.

Secondly, scientific hypothesis is the basis of scientific research. If there is no scarcity of resources, there is no need for the development and research of economics. Similarly, if people are not psychologically driven to engage in economic activities out of "satisfaction", economics does not need to be developed and studied. In this way, the homo economicus hypothesis and resource scarcity is also necessary for economic research.

Therefore, on the premise that the homo economicus hypothesis is the hypothesis of resource scarcity, the hypothesis of resource scarcity is unanimously agreed upon, which means that the homo economicus hypothesis is logically agreed.

### **3.3. Homo Economicus Hypothesis Is the Premise of Public Management Construction**

This paper argues that denying the homo economicus hypothesis will not only cause the theory of public administration to lose its scientificity due to the lack of rigorous logic, but also provide theoretical basis to ignore the interests of individual citizens and system construction in the practice of public administration and lead to the tyranny and abuse of public power.

#### **3.3.1 Homo economicus hypothesis is the scientific basis of the public system**

Over the past 40 years of the reform and opening up, economic construction has long been China's most fundamental state policy. As a country with complicated economic structure and different local conditions, China's public management cannot be separated from the analysis of economic data and the dynamic situation of market development. Without the homo economicus hypothesis, most economic data would lose their market significance, and the treasure trove of economic analysis tools would be destroyed and no longer of reference value. From this perspective, the homo economicus hypothesis not only makes the design of national public system possible on the macro level, but also gives birth to the design of incentive and punishment system in various fields on the micro level, and push forward the development of society.

#### **3.3.2 Homo economicus hypothesis is the theoretical basis of power checks and balances**

Take the electoral system as an example. Voters choose parliamentarians for their personal interests. Parliamentarians integrate their personal interests into the public interest and carry out public policies. In this process, if there is no satisfaction of personal interests, there is no achievement of public interests. Among the critics of the economic man hypothesis, there is an extremely illogical statement, which comes from the field of public administration. Some scholars believe that public managers make public policies for altruistic purposes, while voters participate in elections for selfish purposes. According to this statement, as long as public managers are either born or born managers, then in the process from voters to managers, public managers can complete the transformation from egoists to altruists. Obviously, there is no basis for this statement. In fact, without the limitation of voters' personal interests, it is difficult for managers to have the motivation to realize the public interests.

It is precisely on the basis that every homo economicus has a partially self-interested driving force that the modern state has the political concept of "decentralized governance". In the world, countries without checks and balances of power rarely rank in the top of the world in terms of comprehensive strength. Britain, once dominated the world for more than 100 years, and the United States which still dominates the world, are both the practitioners who take the lead in the world in terms of checks and balances of power, and it is this idea that lays the foundation for their strength. The system of mutual checks and balances between the two commanders at all levels has been tested by war and time, and has become a strong institutional foundation for our military.

If Giving up the homo economicus hypothesis, public managers would naturally tend to be "altruistic", because institutions that restrict power consume a large amount of tax revenue, and checks and balances of power are no longer necessary, which is inconsistent with the history of human development. From this perspective, it is the existence of the hypothesis of economic man that lays the theoretical foundation for the balance of power and promotes the sustainable development of communities in various regions.

#### 4. THE SIGNIFICANCE OF THE NEW HOMO ECONOMICUS HYPOTHESIS TO THE THEORETICAL MODEL OF EXTENDED SERVICE

It is now widely believed in the economics of national defense and human resource management that serving soldiers not only value the monetary income they receive, but also the non-monetary aspects of their work, and we can find similar examples around us. Therefore, the task of a certain position, personal preference, the degree of consistency between work and tasks, personal dedication, sense of honor, etc., All these will affect individual utility and overall utility. However, most of the existing studies only calculate the military manpower cost from the economic perspective of monetization supply, training cost and so on. The study of such pure profit hypothesis cannot obtain more meaningful analysis data and materials, and its reference value to reality will also be limited.

##### 4.1. Existing Theoretical Model of Extended Service

Here elaborates the theoretical model of extended service elaborated by Kuguisheng in National Defense Economics with different hypotheses of economic man considered respectively, so as to illustrate the role of the hypothesis of economic man in theoretical research.

The theoretical model of extended service is based on the premise of traditional homo economicus hypothesis. It believes that when a person chooses to retire depends on his retirement cost. If his retirement cost is positive at some point, he will choose to serve longer. If the cost of his retirement is negative, he will retire immediately. The specific model is as follows. Assumptions:

- (1)  $W_j^M$  is the expected military salaries for the jth year;
- (2)  $W_{j,t}^M$  is the civil income in the jth year in the future if the person retires in year t;
- (3)  $W_{j,n}^C$  is the civil income in the jth year in the future if this person retires after n years in the future;
- (4)  $R_n$  is the expected present value of retirement payments and other retirement benefits in the next n years if this person retires after n years.
- (5)  $R_t$  is the expected present value of the retirement benefits and other retirement benefits in the next n years if the person retires after n years.
- (6)  $\tau^m$  and  $\tau^c$  are the non-monetary gains of the military sector and the civilian sector respectively.
- (7)  $\rho$  is the discount rate of personal future income.

If a person serves until the t year, if he does not retire, but chooses to serve again until the N year of retirement, then this person starts from the t year until there is no income at all. The discounted value of all his future earnings in the T year is:

$$S_{t,n} = \sum_{j=t+1}^n \frac{W_j^M}{(1+\rho)^{j-t}} + \frac{R_n}{(1+\rho)^{n-t}} + \sum_{j=t+1}^n \frac{\tau^m}{(1+\rho)^{j-t}} + \sum_{j=n+1}^{\infty} \frac{W_{j,n}^C + \tau^c}{(1+\rho)^{j-t}} \tag{1}$$

If he chooses to retire in year t, starting from year t until there is no income at all, the present value of his income in the civilian sector is:

$$L_t = \sum_{j=t+1}^{\infty} \frac{W_{j,t}^C + \tau^c}{(1+\rho)^{j-t}} + R_1 \tag{2}$$

$C_{t,n} = S_{t,n} - L_t$  is used to represent the cost of decommissioning. Obviously, if  $C_{t,n}$  is positive,  $S_{t,n} > L_t$ , the benefit of continuing to serve for a period of time is greater than the benefit of immediate retirement, people will choose to continue to serve. If  $C_{t,n}$  is negative,  $S_{t,n} < L_t$ , the return from continued service for a period of time is less than the return from immediate retirement, people will choose to retire.

#### 4.2. Improved Model based on the New Homo Economicus Hypothesis

The model is clearly based on the assumption that everyone maximizes "economic benefits," the traditional homo economicus hypothesis. Such a hypothesis has the advantages of convenient measurement and decision-making, but there are also some problems that the hypothesis is divorced from reality and does not take into account the needs of individual "altruism".

If you consider an individual's "altruistic" needs and think of it as a psychological "income", write it as  $A_{\alpha_1, \beta_1, \gamma_1, t}$  and  $B_{\alpha_2, \beta_2, \gamma_2, t}$ .  $A_{\alpha_1, \beta_1, \gamma_1, t}$  is on behalf of "Psychological income" from continuing to serve. And the "Psychological income" from continued service was determined by three factors that varied with year t, including  $\alpha$  for honor,  $\beta$  for devotion,  $\gamma$  for preference, and  $B_{\alpha_2, \beta_2, \gamma_2, t}$  for satisfaction of individual needs. Similarly, represents the "psychological income" brought by the choice to retire and enter the civil sector.

Then the improved model based on the new homo economicus hypothesis is as follows:

$$S_{t,n} = \sum_{j=t+1}^n \frac{W_j^M}{(1+\rho)^{j-t}} + \frac{R_n}{(1+\rho)^{n-t}} + \sum_{j=t+1}^n \frac{\tau^m}{(1+\rho)^{j-t}} + \sum_{j=n+1}^{\infty} \frac{W_{j,n}^C + \tau^c}{(1+\rho)^{j-t}} + \sum_{j=t+1}^n \frac{A_{\alpha, \beta, \gamma, n}}{(1+\rho)^{j-t}} \tag{3}$$

$$L_t = \sum_{j=t+1}^{\infty} \frac{W_{j,t}^C + \tau^c}{(1+\rho)^{j-t}} + R_1 + \sum_{j=t+1}^{\infty} \frac{B_{\alpha, \beta, \gamma, n}}{(1+\rho)^{j-t}} \tag{4}$$

$$C_{t,n} = S_{t,n} - L_t \tag{5}$$

The judgment as to whether to continue in service remains unchanged. In other words, if  $C_{t,n}$  is positive,  $S_{t,n} > L_t$ , the benefit of continuing to serve for a period of time is greater than the benefit of immediate retirement, people will choose to continue to serve; If  $C_{t,n}$  is negative,  $S_{t,n} < L_t$ , and the return from continued service for a period of time is less than the return from immediate retirement, people will choose to retire.

### 4.3. The Significance of the New Homo Economicus Hypothesis

It can be seen from the improvement process of this model that different assumptions of homo economicus hypothesis will bring great changes to the theoretical model of economic research, affect the results of national defense economics research, and change the guidance to policies. This shows that economic research should not only pay attention to measurement methods, model construction and investigation, but also pay attention to the selection of basic assumptions. The new homo economicus hypothesis is a more "humanized" definition, which is closer to the real military manpower cost, so the practical significance of the research guided by it is more significant.

Further more, the homo economicus hypothesis's 'multidimensional' will also provide a different perspective for the research on defense economics. To truly realize "people-oriented" in research, reduce the poor practices, theories, and "the cold model" put on the shelf, and makes the research results can be truly transferred into practice, as well as feedback can be used in improving the research.

## 5. CONCLUSION

"Economics is the study of human behavior." Fundamentally, economics is about the study of human motivation. With the development of the social sciences came the realization that human motives are varied, neither wholly self-interested nor wholly altruistic. Therefore, in the face of the criticism of the homo economicus hypothesis from all walks of life, the first thing is to perfect the basic definition of "homo economicus" and enrich the homo economicus hypothesis, which is of great significance to the profound development of modern economics. Secondly, we should clearly recognize the powerful role of homo economicus hypothesis in empirical research and public management. Third, it is necessary to appropriately apply the homo economicus hypothesis to practice with flesh and blood. For example, the factor of "altruism" should be considered in the calculation of the cost and benefit of military manpower.

On the one hand, the economic analysis based on the homo economicus hypothesis is expanding to all fields of the society without any difficulties. On the other hand, it never give up its guiding role in reality. It has powerful insights, which can get to the heart of human behavior by lifting the vague veil with its sharp explanation. Although people do not like it or do not accept it, it still plays a central role in all kinds of decision-making processes, especially in the public decision-making process. Transcending the existing homo economicus hypothesis may be the key issue to make breakthrough in the research of basic theories of contemporary economics, but so far, a more practical approach should be the improvement of the theory, so that the hypothesis of new homo economicus hypothesis is closer to reality and can provide better guidance to economic decision-making.

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