

# Problems, causes and countermeasures of China's pension insurance system

Zewei Chen

North China Electric Power University

13505815557@139.com

**Abstract.** Under the background of global population aging, it is of great practical importance to solve the problem of old age for the growing number of elderly people and to improve their quality of life. The old-age insurance system is a state-led approach to solving the old-age problem. This paper focuses on the current situation of the operation of China's pension insurance system, and discusses it from three aspects: problems, causes, and countermeasures. The existing problems are studied from four perspectives: the gap between income and expenditure of the fund, the omission of the population covered, the unbalanced development of the three pillars, and the imperfect investment system; the causes are analyzed through the common root causes of the problems; the proposed solutions focus on the problem of funding gap, and consider both expanding sources and reducing expenditures. They should not only give full play to the government's macro-control and market supervision, but also actively use the market's ability to allocate resources to jointly promote the steady development of the endowment insurance system.

**Keywords:** pension insurance; funding gap; three-pillar system; individual accounts; retirement age.

## 1. Introduction

The question of how to retire is a topic that everyone will face. There are many possible ways to provide for the aged, such as using land to provide for the aged, raising children to prevent the aged, saving for the aged, housing for the aged, investing for the aged, etc. These methods have their own risks and pros and cons, and are not systematic and they are all individual choices. In order to provide for the aged in an organized and systematic way, China established a social endowment insurance system in 1986. The old-age insurance system is a system established by the state according to certain laws and regulations to ensure the basic life of workers after reaching the prescribed working age limit for lifting their labor obligations or withdrawing from their jobs due to old age and loss of working ability; It aims to protect the lives of the elderly, meet the challenges of population aging and promote the normal replacement of the labor force. It is also the "stabilizer" of social life and an important embodiment of humanitarianism. By the end of 2021, China's old-age insurance system has formed a grand scale, reaching the level that the participation rate is stable at over 95% and the number of people covered exceeds 1.03 billion.

Although China's pension insurance system has generally achieved fruitful results, a number of problems have gradually emerged with the deepening of ageing, ranging from old problems left over from history to new problems brought about by economic development and social progress. According to the Statistical Bulletin of National Economic and Social Development in 2021 issued by the National Bureau of Statistics, the number of elderly people aged 65 and above in China has reached about 200 million, accounting for about 14.2%. According to the international definition of "deep aging society", that is, the population over 65 years old accounts for more than 14% of the total population, which indicates that China has entered a deep aging society, and the pressure of pension work is heavier, which poses new challenges to the existing pension insurance system. The increase in the ageing population is accompanied by a declining trend in the working population in China, and the population support ratio may even drop to 1:1 in the future, which fundamentally threatens the old-age insurance system based on the "pay-as-you-go system". The current research by experts and scholars in the field of "existing problems of the pension insurance system" is broader in scope, more comprehensive in perspective, more in-depth in thinking, mature in

investigation methods and combined with the actual situation of society, which is worth summarizing. Generally speaking, there are some outstanding problems in the endowment insurance system, such as large gap between fund revenue and expenditure, heavy financial burden and uneven development level in different places. Liu Fei points out that after the implementation of the national coordination of pensions on January 1, 2022, the problem of fund gap in China's pension insurance should be analyzed at a national level, instead of sticking to the gaps at all small levels. Zong Zhen and others pointed out that the current investment of endowment insurance fund is mainly carried out through bank savings and purchase of low-risk bonds, with low yield and no special investment institution responsible for operation, which makes it difficult for the fund to increase its value and maintain its value. As for the imbalance of old-age insurance, Wang Hongru pointed out that the pension of urban workers is generally higher than that of urban and rural residents, and the pension gap between enterprises and government agencies and institutions is also large. Different systems should be used according to the actual situation, instead of implementing the national "one size fits all". Most experts and scholars have indicated that under the background of aging population, China's basic pension has roughly completed the requirements of "full coverage" and "basic guarantee", and in order to form a sustainable old-age insurance system in the future, it is necessary to speed up the development of individual pension system.

The following is the line of thought of this paper. Throughout the existing literature, this paper summarizes the problems of China's pension insurance and sorts out four difficulties: first, it is difficult to collect funds and the gap between income and expenditure is large; Second, the coverage objects are incomplete and the regional gap is obvious; Third, the pressure of the first pillar increases, and the scale of the second and third pillars is lacking; Fourth, the investment system is immature and the capital market operation is difficult. After analyzing and summarizing each problem, this paper fundamentally puts forward three reasons: the inadequate legal and regulatory system related to pension insurance, the difference in the degree of economic development between different subjects, and the low knowledge of the public about pension insurance. In response to the problems and causes, this paper proposes five countermeasures to address them in the context of China's specific situation: reducing fees and expanding the coverage, developing the economy, s operating individual accounts in a market-oriented and specialized way, linking pension replacement rate with living expenses index, prolonging retirement age and improving the utilization efficiency of state-owned assets.

## **2. Present situation and problems of endowment insurance system**

It is China's goal to develop a multi-level social endowment insurance system with strong security ability, wide coverage, urban and rural integration, fairness and efficiency, and rights and obligations. By comparing the present situation with the goal, this paper summarizes the following existing problems.

### **2.1 It is difficult to collect funds and the gap between income and expenditure is large.**

When China's employee pension insurance system was established in 1997, it was stipulated that retired staff and staff who had already participated in the system were not required to make retroactive contributions to the pension fund, and the years of continuous service prior to the introduction of the system were treated as "deemed payment period ", which formed a historic gap in the pension insurance fund.

The gap analysis is based on the basic model of pension insurance. The fund is made up of two parts: the contributions paid by the unit for the employee and the contributions paid by the individual; the part paid by the unit is added to the pool of the fund, which is the source of the basic pension paid by the coordinating organization on a daily basis; the part paid by the individual shall enter the account opened in the name of the individual and be owned by the individual. According to the calculation in China Pension Actuarial Report 2019-2050, the basic old-age insurance fund

for urban workers will have a current income and expenditure gap in 2028, and if it is not improved, the accumulated balance of the fund will dry up around 2035. The application of the unified account combination mode makes the fund have the following triple gaps.

First, deficits in individual accounts are common. When the integrated fund is unable to cover all the expenses of the pension, it turns to overdraw the personal account, resulting in the personal account being "nominal but not real". According to the Chinese Academy of Social Sciences' China Pension Development Report 2021, by the end of 2021, the cumulative personal account of urban workers' basic pension insurance was recorded at about 4.1 trillion yuan, while the cumulative personal account fund of all pilot projects nationwide was 500.1 billion yuan, with the difference between the two being 3.59 trillion yuan, all of which were overdrawn to create a gap. Although the amount of real accounts has increased compared with 415.4 billion yuan in 2020, the absolute number of accumulated personal accounts is too large, so there is still a long way to go in "real personal accounts". Excessive empty accounts in personal accounts are the first gap that income and expenditure do not offset.

Secondly, some pension insurance units have difficulties in paying their pensions in full, and even if all the funds in the individual accounts are mobilized, they cannot fully cover the gap. According to the Annual Report on China's Social Insurance Development 2021, six provinces - Heilongjiang, Liaoning, Jilin, Shaanxi, Qinghai and Hebei - had pensions that did not cover their expenses in the current period, while there were also provinces such as Guangdong, Beijing and Zhejiang that had pension balances, for which the central government implemented transfer payments to ensure that pensions could be paid in a timely manner in difficult areas. Substantial pension payment difficulties arising in some regions are the second shortfall of under-coverage.

Finally, since January 1, 2022, China's provincial pooling has been completed, and the national pooling of pensions has been officially implemented. At present, the national coordination is conducive to greater central transfer of pensions and can equalize the burden of paying pensions between regions. However, as ageing increases and the dependency ratio grows in the future, there will always be a problem that the national pension will not meet its income in a certain period. This is the potential funding gap and the fundamental crux.

## **2.2 The coverage objects are not comprehensive enough and the regions are unbalanced.**

In theory, the groups covered by China's endowment insurance are "social workers within the legal scope", but in fact, many employees of non-public economic entities, unemployed employees of township enterprises and migrant workers moving between urban and rural areas have not participated in the endowment insurance system. Statistics show that in state-owned enterprises, employees who pay endowment insurance account for about 98.6%, employees who pay in collective enterprises only 53.7%, and the number of people who pay in private ownership enterprises accounts for even less, which is 30.8%; The above is the number of uninsured groups in the traditional sense. The rapid development of the Internet economy has led to the emergence of many new forms of economy, such as the courier industry, takeaway industry, drop shipping, e-commerce, etc. Most of those employed in these industries are young people, with irregular employment units and high mobility, and a large proportion of workers have no concept of paying pension insurance. If a takeaway rider becomes incapacitated in old age, it is likely that he or she will not have a regular monthly pension to sustain their livelihood, a situation that should be taken into account when considering the groups covered by pension insurance.

Pensions for urban and rural residents are mainly made up of a basic pension and a personal account. The basic pension is linked to the level of local economic development and fiscal revenue, so it varies widely from province to province, such as 1300 yuan in Shanghai and 887 yuan in Beijing, but the basic pensions in 25 provinces are between 100 and 200 yuan. Although the price level varies from place to place, it is definitely unreasonable for pensions to vary so much between different regions.

### **2.3 The second and third pillars of the insurance system are not fully developed.**

China's endowment insurance system is established on the basis of the three pillars of the World Bank. The first pillar is the endowment insurance for urban workers and urban and rural residents, which is compulsory; The second pillar is the enterprise annuity of enterprise units and the occupational annuity of government agencies and institutions, which are paid by units according to the situation; The third pillar is personal savings and commercial endowment insurance, which are paid voluntarily by individuals. At present, the first pillar is the most mature, accounting for 65.76%. From January to October 2022, the income of the two funds totaled 5.58 trillion yuan, the expenditure was about 5.19 trillion yuan, and the balance was about 390 billion yuan. The second pillar has begun to take shape, but its coverage is not wide and the number of participants is not enough, accounting for 34.23%. At the end of 2021, the operating scale of enterprise annuities was 2.61 trillion yuan, and occupational annuities were 1.79 trillion yuan, of which the participation rate of enterprise annuities was only about 6%, and occupational annuities only benefited employees of government agencies and institutions. The third pillar only accounts for 0.01% of the overall system, which has great development potential. The first pillar is inversely proportional to the second and third pillars, i.e. if the replacement rate of basic pensions in the first pillar is too high, then it is difficult for the second and third pillars to develop healthily. Judging from the current pension pressure in China, relying on the first pillar pension can only guarantee a basic standard of living for retirees, and if you want to improve the quality of life, you need to fully develop the second and third pillars.

In the second pillar, enterprise annuity refers to supplementary pension insurance schemes established by enterprises and their employees on the basis of their participation in pension insurance in accordance with national policies and the economic situation of the enterprise, through necessary democratic decision-making procedures and enjoying national tax support. It aims to reduce the replacement rate of basic old-age insurance, reflect the diversity of insurance system, improve employee welfare, attract outstanding talents, and play a very important role in improving the cohesion and competitiveness of enterprises. It has a very important role to play in improving the cohesion and competitiveness of enterprises. If an enterprise annuity can be actively operated, it is a strong guarantee for employees' lives after retirement; however, the coverage of enterprise annuities is not broad enough, the coverage of enterprise annuity is not wide enough, and only a part of state-owned enterprises are developing, while private enterprises are basically not set up. In addition, private enterprises and other market entities have a heavy burden of paying taxes and social security, which greatly weakens their ability to pay enterprise annuities. In contrast, the development of occupational pensions has been relatively smooth, but the coverage is limited, with only over 39 million employees in the establishment covered.

As an important supplement to the first and second pillars, the third pillar is very small in scale at present, which does little to address the pension insurance funding gap. As an open concept, the third pillar system can contain many elements, such as bank savings deposits, pension insurance products developed by insurance companies, investment and financial products developed by fund companies, etc. They are in various forms, rich in content and have a large potential market. At present, the top-level design of the third pillar is basically mature, but it lacks requirements on the scale, specific direction and detailed indicators of future development. Commercial insurance is a commercial practice that operates through contractual relationships, with costs borne entirely by individuals. And it can meet multiple levels of risk protection according to the requirements of policyholders. It is restricted by the market competition mechanism and regulated by the government according to law, and the interests of the insured can be protected to some extent. The first and second pillars are more regulated by the government, but the government's ability to allocate resources is after all limited, and it cannot be required to bear all the risks of pension fund investment. If the third pillar can flourish with the power of market allocation, it will be able to solve economic problems outside the government's purview and reduce the government's burden to a large extent.

## **2.4 The investment system is not perfect.**

Although China has introduced a series of regulations to regulate the investment of pension funds, in practice, there is still a lack of supervision, resulting in the safety of funds being threatened and the efficiency of investment being low. In addition, China has not set up a specialized pension insurance investment institution, and lacks a transparent and useful platform for risk comparison, scientific selection and efficient operation of pension fund investments, as well as a corresponding supervisory body or relevant channels to keep abreast of the investment status of funds.

## **3. Causes of existing problems**

After an in-depth discussion of the above five problems, this paper combs the causes of the problems.

### **3.1 Lack of specific legislation on endowment insurance**

At this stage, although China has made certain achievements in the legislation of pension insurance system, the clarity and specialization of the legislation are still lacking, the degree of unified planning is not high, the structure of the legal system is not mature enough, and the completeness is not enough, so it fails to give full play to the functions of justice and protection of the law in this field. Therefore, there is no detailed legal support when implementing various policies, and even some of them are in a state of "no law to follow", which shows that the lack of legal binding force will lead to inadequate implementation and supervision. The implementation of the pension insurance system varies greatly between rural and urban areas, with rural areas being difficult to fully implement for certain economic and social reasons, while urban workers' pension insurance in developed cities can be a good solution to the pension problem. Therefore, it is important to take into account the characteristics of different groups of people and regions when improving regulations to ensure that legislation can effectively guarantee the implementation of the pension insurance system.

There are no specific regulations for corporate pensions and they are not mandatory. *The Notice on Adjusting the Investment Scope of Enterprise Annuity Fund* issued by the Ministry of Human Resources and Social Security in January 2021 is the latest revision plan of management system. In the absence of legal constraints and protection, many private enterprises or small and medium-sized enterprises that have no spare capacity to develop enterprise annuities choose to give up directly. However, there are a large number of small and medium-sized enterprises in China, and accounts for about 90% of all enterprises, which leads to a low overall participation rate of enterprise annuities. In contrast, occupational annuities are compulsory to pay, and all government agencies and institutions in the country must pay if they should pay, and the finance pays this part of the expenses, so it has strong enforcement and security.

The lack of transparency in the management of pension operations and the absence of specific regulations to govern them, as well as the lack of disclosure of data such as management costs, may lead to a lack of clarity about where the money is going, which also contributes to the potential funding gap.

The personal pension project has just started in 2022, which lacks the support of regulations and needs to be followed up by the follow-up legislative procedures.

### **3.2 Imbalance of power between different areas and subjects**

The level of endowment insurance shows differences in different fields, which is caused by the unbalanced development of social productive forces.

From an objective level of analysis, there are differences in the level of economic development between regions. Whereas economic development can make the labor market more dynamic and employment rates rise, enabling more people to participate in pension insurance. If the economic

development is sluggish and the unemployment rate is high, it will not only reduce the number of people participating in insurance, but also increase the burden of pension payment, which makes it difficult for the old-age insurance system to fully develop. Therefore, there are huge differences in the maturity of different systems and the problem of imbalance between regions has not been fundamentally resolved, so the implementation of national co-ordination has to be accelerated.

As far as farmers are concerned, their low income is their most distinctive feature. If the rules of pension insurance stipulate that the more you pay, the more you get, in provinces where the basic pension is around 100 yuan, farmers need to choose a higher contribution level, such as the 8,000 yuan, and pay for 15 years continuously, in order to be able to receive a monthly pension of 1,000 yuan, but in fact most farmers have difficulty in reaching 8,000 yuan contribution level. Although farmers own the land, but when they are not physically able to work in the fields, the land will not serve as a pension. Although the land can be rented out, the reality is that in many areas farmers are unable to rent out their land successfully and much of it is largely abandoned. The two reasons for the low level of farmers' pensions and the difficulty of securing their livelihood in old age still need to be addressed by the system.

### **3.3 Lack of active public participation in pension insurance investments**

Under the current uncertain economic situation, the third pillar of endowment insurance has the nature of investment and has certain risks. According to Keynes's flexible preference theory, it shows that people have liquidity preference and are more willing to save their income in the form of money, that is, they prefer to keep their money in their own hands. Therefore, people tend to deal with their wealth by saving, rather than making other investments such as personal pension, so there is distrust of pension insurance products. Residents' psychological aversion to risks is an important reason for the difficulty in collecting pension investment projects.

At the same time, China lacks in publicizing the old-age insurance system, which leads to people's poor understanding of the old-age insurance system, so young people basically do not take the initiative to acquire this knowledge, most people are passively waiting for the country to deploy the basic old-age insurance, and know little about the second and third pillars. According to 2020 statistics, 35.16% of the population aged between 18 and 29 are not involved in the pension financial market, and 23.57% of the population aged 60 and over are not involved. Therefore, on the whole, people's awareness of participating in insurance is weak and their enthusiasm is insufficient, and they have not formed the habit of purchasing commercial endowment insurance for the time being. In terms of the nature of pension insurance investment products, most of them have a long-cycle nature, i.e. a long interval between the investment period and the period of enjoying protection, which is not very stimulating for consumers who purchase the products; people may find it difficult to make such a choice as investing in long-term funds if they are only concerned about immediate returns.

## **4. Countermeasures to solve the problems**

"Open source" and "reduce expenditure" are two major directions to solve the existing problems of social endowment insurance system. To improve the legislation of pension insurance to cover all the people, to coordinate the urban and rural areas, to help the disadvantaged groups in the society, and to narrow the gap of pension level between groups and regions, these are the institutional countermeasures, which are waiting for the introduction of the relevant regulations of the central government and will not be detailed in this paper.

### **4.1 Reducing contributions and expanding coverage to develop the economy and consolidate the chassis**

China's basic pension insurance contribution rate for urban workers is around 20% of wages, which may vary from region to region. Such a contribution rate is already at a relatively high level

internationally, and it is not advisable to continue to adjust it upwards even to fill the funding gap. Instead, the contribution rate could be reduced appropriately to ease the burden of contributions. If the rates are adjusted downwards, it will enable various market players, such as small, medium and micro enterprises and private enterprises, to reduce their labor costs and be able to arrange more power in developing the economy. The economic level is a fundamental means to solve the shortage of funds, and the rise in tax revenue brought about by an improving economic situation can lead to an overall increase in the pension fund, the effect of which may be better than an increase in rates. At the same time, a reduction in rates means a lowering of the threshold for participation in pension insurance, which is conducive to promoting the participation of enterprises and workers in taking out insurance and making the coverage of urban workers' pension insurance more complete.

#### **4.2 Market-oriented specialized operation of individual accounts**

At present, the operation mode of China's pension is generally conservative, with bank savings generating interest, buying low-risk bonds and a small number of subjects investing as the main ways, and the profitability is not saturated. On April 21, 2022, Opinions on Promoting the Development of Personal Pension was promulgated, which indicates that China plans to develop a personal pension based on the account system, with its own characteristics, with policy support provided by the government, voluntary participation of individuals and market-oriented investment and operation of funds. In order to better build a voluntary pension insurance system, a variety of financial services products with pension insurance functions should be developed as soon as possible, such as wealth management, funds, trusts, etc., giving the public more options while financing. If individual exclusive pension accounts are completed, it will lay a good foundation for the subsequent development of the third pillar and stimulate the vitality of the commercial insurance market.

#### **4.3 Correlation between substitution rate and cost-of-living index**

The upper limit of pension standard should consider the existing living standard of retirees, and the lower limit should be higher than the poverty line, that is, pension should be higher than the standard of social relief. Therefore, the documents of the International Labor Conference stipulate that the normal wage replacement rate of old-age insurance shall not be less than 40%-50% under the condition of 30 years of payment and employment and a spouse who meets the old-age conditions. China's pension replacement rate refers to the ratio of pension income after retirement to salary level before retirement. In addition, the basic pension has the characteristics of "wide coverage" and "basic guarantee", and the replacement rate is about 41%, which is already at a low level in the world. Generally speaking, if you want to "throttle", you will choose to lower the replacement rate. However, due to inflation and other factors, the growth rate of wage level may accelerate, and the pension replacement rate will naturally drop to a lower level, so it is unrealistic to make artificial downward adjustment. Based on this situation, the pension replacement rate can be linked with the cost of living index of the elderly, that is, on the premise of ensuring that the pension can pay the cost of living of the elderly, the pension can be paid more pertinently and efficiently, and the expenditure can be saved.

#### **4.4 Extension of the retirement age**

Data shows that a 1% rise in the retirement age reduces the pension fund gap by 1.949%, so raising the retirement age has important practical implications. The current retirement age in China is 60 for men, 55 for female cadres and 50 for female employees in enterprises, and 60 for men and 55 for women in institutions. The policy of gradually delaying the statutory retirement age, as proposed in the 14th Five-Year Plan, reflects the adjustments and efforts made by China in this regard. Delaying the retirement age and increasing the employment rate of the ageing population will make full use of labor resources, help boost economic growth through employment, increase the number of people contributing to pension insurance, and enrich the source of pensions. At the

same time, the delayed withdrawal of the elderly population from the labor market can reduce the dependency rate and, to a certain extent, the pension expenditure, making the gap between income and expenditure narrow.

Gao Jianwei and Lan Ye used the generation overlapping model (OLG) and established a general equilibrium system. The research shows that delaying retirement age will lead to a decrease in the replacement rate of social pooling accounts and an increase in the replacement rate of personal accounts. The total replacement rate first increases and then decreases with the extension of retirement age; in general, the economic effects brought by delaying retirement are positive. Therefore, it is necessary to promote a policy of gradual extension of the retirement age. The current lower retirement age no longer meets the needs of the current economic development, and changes in this regard are conducive to the improvement of pension levels.

In addition, delaying the retirement age for senior intellectuals and other groups is beneficial to society. Education is an activity with positive externalities, i.e. the individual benefits are smaller than the social benefits; therefore, for professors and teachers with advanced knowledge in major schools, social science academies and research institutes across the country, the retirement age can be appropriately extended to give full play to the value of this high-quality workforce to society as long as their health condition allows, while avoiding the existing situation where the income gap before and after retirement is too large. The cost of basic living for this ageing population is addressed.

#### **4.5 Improving the utilization rate of state assets and raising pension funds through multiple channels**

In order to supplement the pension gap from the source and promote inter-generational equity, the Third Plenary Session of the 18th CPC Central Committee proposed to "transfer some state-owned assets to enrich the social security fund", i.e. 10% of the state-owned equity of central and local state-owned and state-controlled large and medium-sized enterprises and financial institutions are transferred to the Social Security Fund and relevant local undertakings, and as financial investors, they are entitled to dividend income in accordance with regulations. The transfer of state-owned capital is an important embodiment of the advantages of China's economic system with the public ownership economy as the main body, which not only solves the gap of pension funds, but also reduces the burden of private enterprises and small and medium-sized enterprises to pay insurance. However, due to the different development of state-owned capital in different regions, the funds transferred are currently limited and underutilized, and the supervision is not sufficient, which may lead to omission or evasion of the transfer, and has not fully played the role of sustainable development of pensions. Therefore, it is necessary to determine the proportion of transfer according to the actual operating level of state-owned enterprises. 10% is only used as a reference value, and the true proportion can be appropriately increased or decreased to encourage more state-owned enterprises to participate in the transfer. At the same time, the flow rate of state assets is accelerated and a special supervisory body is set up to monitor the transfer process, so as to improve the utilization rate of state assets from the above two perspectives.

To alleviate people's risk aversion, the government can vigorously promote the future benefits of pension insurance to encourage residents to look at the long term, and then launch a variety of pension insurance products that combine risk protection and earning power to promote a higher participation rate in an effort to develop the third pillar. In the third pillar, financial products that carry the "pension" logo but are short-term in nature are not compliant and need to be cleaned up. This will provide the public with a variety of products and integrates safety, profitability and long-term, giving them a greater incentive to develop their personal pensions.



## 5. Summary

Generally speaking, China's social pension insurance system is becoming more and more complete and has served to enable the aging population to enjoy a secure life in their old age. However, in the face of the increasing number of elderly people, the pension insurance system still suffers from funding gaps, system deficiencies, inadequate coverage and uneven development of the three pillar system. These problems are rooted in the legal system, the reality of economic development and the level of awareness of the general public. Most scholars have now conducted in-depth studies on the design of the three-pillar system of pension insurance. They believe that a 30-40% replacement rate for the first pillar and a 30% replacement rate for the second and third pillars combined is a more ideal situation, when the pressure on the first pillar is not too great and the second and third pillars have been developed accordingly. In addition to improvements in the pillar system, there are other ways to benefit the development of pension insurance, such as the convergence of the "dual-track" system implemented in 2014, but the merger has not yet been fully realized, and it takes about 10 years to complete the transition period; or changes in the fertility policy, with the expectation that an increase in the birth rate will increase the number of working people. However, inter-generational inequity and a future pension gap seem to be inevitable. Therefore, some scholars point out that the fundamental solution to the problem is to increase the share of pensions in GDP. The paper is only partial in its generalization and its focus on the problem and its causes are limited and personal in its thinking, and the proposed solutions are more theoretical, and their practical effectiveness has not yet been proven.

How to provide for the aged is a hot topic forever, and choosing to rely on the national social endowment insurance model for providing for the aged is only one of many ways. With the high level of economic development in the future, people can slowly weaken their dependence on the state in providing for the aged. Based on the support of the government's basic pension, the personal income is reasonably distributed to the whole life in the form of complete accumulation system. An example of this is the recently proposed 'time bank' model, which encourages individuals to earn time by volunteering at an institution when they are young, and to exchange this time for the services of others when they enter old age in the future. The improvement of the pension system is not only an economic necessity, but also has a humanitarian dimension.

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