Analysis of Problems and Countermeasures of the Chinese Pension Finance

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Abstract. China's pension financial system is faced with the dual dilemma of accelerating population aging and structural imbalance of pension system. At present, there are three core problems: the development of the "three pillars" of the pension system is unbalanced, and the financial burden is increasing; Insufficient market operation and high transaction costs; Public pension finance awareness is scarce, especially in rural areas. To conclude, this study proposes countermeasures: optimize the structure of pension system, expand the scale of enterprise annuity and individual pension by means of tax incentive; Promote market-oriented reform, reduce administrative intervention, and establish a long-term assessment system; It is necessary to improve the public's financial literacy, carry out inclusive financial education, and develop financial products suitable for the elderly. In addition, China's pension finance also ushered in three opportunities: the release of policy dividend, the upgrading of market demand and the empowerment of fintech. This study analyzes the problems, puts forward countermeasures and looks forward to opportunities, provides theoretical support for the construction of multi-level pension financial system, and is of great significance to alleviate the pressure of aging and promote the sustainable development of economy.

Keywords: Pension finance, pension system, pension awareness.

1. Introduction

As an indispensable core issue in modern society, the problem of old-age care is becoming increasingly prominent with the intensification of the global population aging trend. The rapid progress of medical technology has extended the life span of human beings, but at the same time, it has brought about a major challenge of how to ensure the quality of life of the elderly. Pension is not only related to the dignity and well-being of everyone in their old age, but also directly affects the sustainability of family intergenerational support and the harmonious and stable development of society. For both developed and emerging economies, building a sound and well-developed old-age security system is an important cornerstone for maintaining social equity and promoting long-term economic growth.

As the most populous country in the world, China's pension problem is particularly complex and severe. At present, China's pension system is facing a major challenge of structural imbalance: the first pillar basic pension insurance bears more than 80% of the pension responsibility, while the development of the second and third pillars is significantly lagging behind, and the coverage rate is insufficient, resulting in a sharp increase in financial pressure; The degree of market-oriented operation of pension is low, and the administrative management mode seriously restricts the value-added efficiency of funds; In rural areas, people still rely on the traditional family pension model, and the public's awareness and participation in modern pension financial instruments are generally low. These problems fully highlight the vulnerability of the existing pension system, and it is urgent to seek breakthroughs and solutions through financial innovation and institutional optimization.

Pension finance can effectively improve the resilience and sustainability of the pension system through diversified capital allocation, market-oriented operation mode and inclusive services. However, China's pension finance is still facing bottlenecks such as insufficient tax incentives, serious product homogeneity, and weak financial literacy of the public. This study aims to systematically and deeply analyze the core problems of China's pension finance, put forward targeted countermeasures and suggestions, and discuss the future opportunities brought by policy dividends, market demand upgrading and fintech empowerment. Through the close combination of theory and practice, this study aims to provide a powerful decision-making reference for improving the multi-level old-age security system and alleviating the pressure of aging, which has important practical significance for promoting high-quality economic development.

2. Problems

2.1. Structure

The structural shortcomings of China's pension system are obvious, reflected in the unbalanced development of its core "three pillars" and the difficulty of meeting the long-term needs of an aging society. Currently, the system relies excessively on the first pillar, basic old-age insurance, which has a wide coverage, with about 95% of the insured population relying on this pillar and bearing more than 80% of the old-age responsibility. However, the coverage of the second pillar, occupational pensions, is relatively limited, covering only about 72 million people, or less than 7 per cent of the population. The third pillar, personal pensions, is still in its infancy, with extremely low market penetration of less than 1 per cent.

This "top-heavy" structure leads to three problems. According to Luo, the proportion of the elderly population in China is rising rapidly, and the problem of population aging is becoming more and more significant, so the pressure of pension payment is also increasing [1]. So first, the basic endowment insurance is facing great financial pressure. In 2022, for example, the basic pension fund for enterprise employees across the country will have a shortfall of 550 billion yuan, while northeast China, with a high degree of aging, depends on the central government to maintain its operation. Second, as Li studied, many small and medium-sized enterprises in China are under significant economic pressure, which leads to their weak willingness to participate in the enterprise annuity system and their actual participation is relatively low [2]. Enterprise annuity is mainly concentrated in state-owned enterprises and public institutions, with low participation of small and medium-sized enterprises and insufficient incentives from preferential tax policies, which limits the inclusive development of the second pillar. Third, the report of An shows that the system has the Matthew effect, that is, it is beneficial to high-income groups, while the middle and low income groups cannot fully enjoy the tax incentives and benefits brought by the system [3]. At present, the financial literacy of Chinese people is low, and the pension financial system has problems such as complicated account opening process and low product yield. For example, the pilot of individual pension account system was launched in 2022, but the number of people participating is small, so the system is not attractive to most people.

2.2. Market Operation

The degree of market-oriented operation of pension in China is still insufficient, which is mainly reflected in the low market-oriented level of pension management institutions. These institutions often lack professional investment management teams and sound risk management mechanisms. According to the report released by the China Pension Association, most pension management institutions still use the traditional administrative management mode, lack of market-oriented incentive mechanism and effective competition mechanism, which restricts the improvement of pension management efficiency and the growth of investment income.

According to the report of Liu, at the present stage, the market-oriented investment of China's pension funds is steadily advancing, and the connection between pension funds and the capital market will become increasingly close [4]. For a long time, the combination of high inflation and conservative investment strategies has led to a significant decline in the value of pension fund assets. In order to cope with the financial burden brought by the aging population, China must accelerate the reform process of market-oriented pension fund investment. The preservation and appreciation of pension funds depend on a sound capital market, and the capital market also needs pension funds, the largest and most professional institutional investors, to enhance the efficiency, depth and breadth of the market. However, in view of the relatively short development time of China's capital market and the imperfect regulatory system and laws and regulations, pension funds may encounter new risks and challenges when investing in the capital market.

In addition, there are some root contradictions in China's pension management institutions. The data show that, on the one hand, the adjustment mechanism of "quota + link" is still used in many places in 2025, and the excessive intervention of the government leads to 82% of pension management institutions lack the ability of independent asset allocation, forming the inertia of policy dependence and the lack of effective market competition. On the other hand, China's pension investment strategy is more biased towards short-term investment, and the lack of long-term investment concept is prominent. In 2024, the average holding period of China's basic pension fund is only 2.3 years, far lower than the standard of 7-10 years in OECD countries. Such frequent position adjustment leads to transaction costs accounting for 15% of returns, which seriously affects the investment benefits of pension funds.

2.3. Personal Pension

Qian said in his research that China's pension market, especially the personal pension system, shows great potential for development. It is expected that within five years after the formal implementation of the personal pension system, its cumulative fund scale will exceed the trillion yuan mark [5]. Reviewing the development history of enterprise annuity and occupational annuity, enterprise annuity has grown from a small start to 2.6 trillion yuan now; Although occupational annuity started late, its capital scale has exceeded 1.5 trillion yuan. Combined with the long-term trend of China's economic development, it is expected that by 2035, the per capita GDP calculated at purchasing power parity will reach US $20,000 to US $30,000, the wealth accumulation of residents will further increase, and the scale of personal pension is expected to exceed expectations, showing broad prospects. However, based on the analysis of the current situation, the development of personal pension finance will not be smooth, and residents' lack of awareness of pension reserve and pension financial products will be important constraints affecting the development.

Jin et al. showed in their report that residents in rural areas in China still show a strong traditional tendency in the concept of pension, and they generally regard children's support and personal savings as the two pillars of pension. In contrast, the use of modern pension tools such as basic or commercial pension insurance to plan for future pension life is not common among them [6]. This strong reliance on internal family support and low participation in the external old-age security system highlight rural residents' relatively conservative concept of old-age care, and also reflect their deep trust and dependence on the family old-age care function. Based on after the outbreak of economic weakness, however, most of the parents to prevent children income uncertainty factors, such as pension savings will be transferred to their children to use, as the continued by so call "between-generation transfer", the elderly pension saving less, more difficult to consider the implementation of pension financial, so that the old-age security is reduced, endowment pressure.

3. Countermeasures

3.1. Architecture of Pension System

The government should accelerate the construction of a multi-level pension system in view of the irrational structure of the pension system, especially strengthen the support for enterprise annuity and individual saving pension insurance, so as to optimize the pension security system and meet the diversified pension needs.

To promote the development of enterprise annuity system, it is necessary to need to focus on two core tasks. The first task is to expand the coverage of the system, especially to meet the urgent need for enterprise annuity groups. Therefore, it is necessary to explore and implement a simpler annuity plan, and expand the scope of benefit by simplifying the application process and moderately relaxing the establishment conditions. Secondly, it is necessary to improve the investment operation system, strengthen the investment management and supervision of enterprise annuity and occupational annuity funds, and realize the preservation and appreciation of pension by improving the return rate of investment, so as to provide more solid economic security for the insured personnel.

In terms of optimizing tax incentive policies, it is suggested to gradually increase the pre-tax deduction amount of annual individual pension contributions from the current 12,000 yuan to 20,000 to 30,000 yuan. This adjustment will not only expand the benefits of the policy, but also effectively stimulate the enthusiasm of the people to participate in the old-age security system, forming a benign and interactive development pattern.

International experience can be actively used for reference in institutional innovation. Xie pointed out that China could explore a hybrid tax preferential model combining EET and TEE based on its national conditions, and the successful practice of IRA account in the United States provided a useful reference for this [7]. This model meets the needs of different groups through differentiated tax arrangements, and improves operational efficiency and transparency with the help of a unified account management platform. In addition, guiding the extensive participation of financial institutions can help enrich the supply of pension financial products, while strengthening the construction of supervision mechanism can effectively prevent and control risks and ensure the safe and stable operation of pension funds. This systematic reform approach has important implications for the development of China's third pillar pension insurance.

3.2. Market-based Operation

In order to improve the efficiency of pension management and investment returns, the government should accelerate the market-oriented operation of pension, and introduce market-oriented incentive mechanism and competition mechanism.

Appropriately reducing government intervention requires the government to adjust the management and control mode of pension management institutions, gradually reduce the intensity of administrative intervention and give them more market-oriented operation space. Specific measures can include allowing managers to independently adjust asset allocation strategies according to market changes and expanding overseas investment channels. In order to stimulate the market vitality, it is suggested to establish a performance appraisal system with long-term rate of return as the core, and link the proportion of management fee collection with the dynamic investment performance, so as to encourage management institutions to optimize investment decisions, innovate the development of financial instruments, and achieve the goal of maintaining and increasing value on the premise of ensuring the safety of funds.

Improving the market access system and strengthening the construction of supervision system is an important foundation to ensure the safe operation of pension. Xu pointed out that the professional ability of investment management institutions directly affects the benefits of pension funds, so it is necessary to select high-quality institutions through strict market access standards [8]. It is suggested to promote the transformation of access mechanism from approval system to inventory system and implement classified and differentiated supervision strategy. At the level of system optimization, it is necessary to focus on improving the entity standards and procedure norms of qualification audit, and strengthen the institutional binding force by filling legal gaps, refining capital threshold requirements, improving audit transparency and other measures. At the same time, the subject of market access supervision should be clarified and unified, and the power list system should be established to clarify the supervision boundary and responsibility attribution, so as to ensure the standardization and effectiveness of supervision work.

In terms of introducing competition mechanism, the government should focus on breaking the current monopoly pattern in the field of pension management. It is necessary to build a healthy competitive environment by opening market access in an orderly manner and introducing diversified professional management institutions. This market-oriented reform can force existing institutions to improve management efficiency, promote the upgrading of the overall service level of the industry through the survival of the fittest mechanism, and finally realize the dual improvement of pension fund management quality and income ability.

3.3. Public's Financial Literacy

Improving the public's financial literacy for the elderly is the key to cope with the challenge of population aging. At present, most residents lack awareness of pension financial products, and over-rely on the government's basic pension insurance, while traditional savings are difficult to meet the needs of long-term capital appreciation. With the increasing aging and the increasing pressure on pension payment, the single security system is difficult to support the future pension demand. The complex design of financial products and misleading publicity by some institutions have intensified the public's doubts and risk-averse tendency towards pension investment. By popularizing pension financial knowledge, the public can choose diversified investment tools more rationally, optimize asset allocation to resist inflation risks and improve the quality of retirement life. Enhancing financial literacy can also reduce irrational investment behavior, reduce the impact of market fluctuations on individual pension assets, relieve the pressure of government finance, and promote the healthy development of pension financial market.

To improve the financial literacy of the whole people's pension, the government needs to strengthen the overall promotion from the strategic level. Zhu proposed that the government should strengthen the construction of the financial market supervision system and build a solid risk defense line by improving the whole chain mechanism of institutional supervision, behavioral supervision, functional supervision and continuous supervision [9]. At the same time, it is necessary to elevate the popularization of financial knowledge to an important task promoted by multiple departments, such as setting up a full-time coordination agency at the central level, unified planning and integration of resources, and systematically promoting the coverage of pension financial education to different social groups.

To enhance the inclusiveness of pension financial services requires multi-party coordination. Yang emphasized that the government should cooperate with financial institutions to carry out inclusive financial knowledge publicity and education, rely on community activities, traditional media and digital platforms to popularize basic financial skills to the elderly, and help them master the use of modern financial tools [10]. Financial institutions should develop financial products suitable for aging with low threshold and low risk, and ensure that the elderly can choose services independently on the premise of being fully informed by simplifying product descriptions and risk tips, so as to narrow the cognitive gap between the supply and demand of financial services.

In order to consolidate the stickiness of individual pension system participation, it is suggested to establish a long-term incentive mechanism. For example, a step-by-step reward policy will be implemented for insured people who have continuously paid personal pensions for more than 10 years, and the attractiveness of the system will be enhanced through additional tax rebates or financial subsidies, so as to guide people to form a stable and sustainable habit of pension reserves, and gradually build an old-age security ecosystem in which individuals take the initiative to participate.

4. Opportunities

China's pension finance is in a golden period of policy-driven, demand-driven and technology-boosted development. By continuously improving institutional design, accelerating the application of science and technology and deepening market reform, China is expected to build a pension financial system that covers all people, has controllable risks and stable returns. This will not only effectively relieve the pressure brought by aging, but also inject new vitality into economic growth. In the future, how to find a balance between innovation and risk, inclusiveness and efficiency, will be the key to achieve high-quality development of pension finance.

4.1. Continued Release of Policy Dividends

Facing the severe challenge of accelerating population aging, the Chinese government has elevated pension finance to a national strategic height. The 14th Five-Year Plan for the Development of National Programs for the Elderly and the Old-age Service System released in 2022 clearly proposes to build a multi-level old-age insurance system, and accelerate the implementation of individual pension systems across the country. In the policy toolbox, preferential tax policies form a strong lever -- the annual pre-tax deduction amount of 12,000 yuan for individual pension accounts directly increases people's willingness to participate, while the tax deferment policy of enterprise annuity stimulates employers to establish supplementary pension plans. At the regulatory level, the CBRC has built a differentiated regulatory framework for special products such as pension finance and pension insurance, such as setting hard constraints on the asset allocation ratio of pension target funds, which not only ensures the robustness of products but also leaves room for innovation. It is worth noting that local governments are promoting the integration of pension finance and real industry through financial subsidies, land security and other supporting measures. For example, Shanghai has incorporated pension community construction into urban renewal planning and rewarded developers with floor area ratio. This combination of policies is reshaping the industry ecology.

4.2. Structural Upgrading

Behind the scale of China's population over 60 years old to exceed 280 million in 2023, there are three dimensions of demand fission. At the level of basic security, the continuous decline in the replacement rate of basic endowment insurance has prompted people to seek supplementary security, and the coverage rate of the second and third pillar endowment insurance has increased by 5-8 percentage points per year. In particular, workers in new employment forms have a significant trend of establishing endowment reserves through personal pension accounts. The demand for wealth management shows obvious stratified characteristics: the allocation proportion of the middle class to the pension target fund jumped from 12% in 2020 to 37% in 2023, while the high net worth people prefer customized insurance trust. The annual sales of the "pension + inheritance" portfolio product launched by a leading institution exceeded 8 billion yuan. The demand for service integration promotes the reconstruction of industrial boundaries. The "insurance + medical care community" model created by Taikang Insurance has distributed 32 high-end pension projects across the country. Customers can lock pension beds by purchasing annuity insurance of 2 million yuan or more.

4.3. Fintech

The wave of digitalization is reshaping the service logic of pension finance. Through machine learning algorithm, the intelligent investment system can generate dynamic asset allocation schemes for users with different risk preferences. The function of "pension smart ledger" launched by an Internet platform has helped more than 30 million users achieve cross-platform overall management of pension assets. The application of blockchain technology has overcome the problem of information isolation of multi-pillar pension accounts. The pension distributed ledger system established in Zhejiang Province on a pilot basis enables the payment records of social security, enterprise annuity and individual commercial pension insurance to be verified in real time, and the capital flow efficiency has been improved by more than 40%. The longevity risk prediction system developed by Ping An Group analyzes tens of millions of medical data to build an actuarial model, reducing the pricing error rate of pension annuity products from 15% to less than 3% in the traditional model. These technological innovations have not only reduced service costs, but also reached 230 million users through super entrances such as Alipay's "pension zone", enabling the elderly in remote areas to easily access professional pension planning services.

5. Conclusion

China's pension financial system is suffering from the dual test of the acceleration of population aging and the imbalance of pension structure, which is characterized by the unbalanced development of the three-pillar system, the low efficiency of market-oriented operation and the weak awareness of public pension finance. This study reveals that the first pillar basic endowment insurance accounts for an abnormally high proportion in the system, while the coverage of the second and third pillars is limited, which undoubtedly aggravates the financial burden; Pension management institutions strong administrative color, investment strategy focuses on short-term, resulting in limited income growth; Of particular concern is the low acceptance of modern pension financial instruments by the public, especially rural residents. In view of this, this study puts forward countermeasures such as optimizing the three-pillar structure, deepening the market-oriented reform, and strengthening financial education, and focuses on the development opportunities brought by policy support, demand growth and scientific and technological assistance, which lays a theoretical foundation for the construction of a multi-level and inclusive pension financial system.

Although this study has systematically sorted out the problems and countermeasures, there are still shortcomings. For example, this study has not explored deeply enough practical problems such as regional differences and interest reconciliation that may be encountered in policy implementation. At the same time, for the specific effects and potential risks of fintech application, this study also fails to conduct sufficient quantitative analysis. Therefore, future research needs to further explore the feasibility of countermeasures based on specific practical cases, and broaden the exploration of differentiated development paths between urban and rural areas.

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