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Study on the Impact of Pension Insurance on Household Consumption

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Abstract. Against the backdrop of China's aging trend, the sound development of the pension insurance system is becoming increasingly crucial within the social security framework. It is noteworthy that the consumption rate among Chinese residents remains low, and there is substantial room for enhancing the role of consumption in driving economic growth. This paper takes the pension insurance system as a starting point to explore its impact mechanism on household consumption behavior, while systematically reviewing the developmental history of China's pension insurance system. It combines the life cycle theory with the overlapping generation theory to analyze how pension insurance can improve household consumption propensity through the two dimensions of income effect and wealth effect. Furthermore, this paper discusses its impact from three dimensions: pension insurance type, security level and policy adjustment. This paper finds that urban employee pension insurance is more effective in stimulating consumption than urban and rural resident pension insurance by combining previous articles; improving pension levels helps to enhance consumption capacity, especially in the middle and low-income groups.

Keywords: Pension Insurance, Resident Consumption, Income Effect, Wealth Effect, Life Cycle Theory.

1 Introduction

China's aging trend has stepped into a phase of "rapid advancement". Population aging has become a fundamental national reality in China's new journey of comprehensively building a modern socialist country, and it has also emerged as a key challenge to be addressed in promoting Chinese-style modernization.

Facing the aging demographic landscape, China has been continuously enhancing its pension insurance system. By the end of 2024, the number of participants in the basic pension insurance for urban employees reached approximately 534 million, while the number of participants in the basic insurance for urban and rural residents amounted to around 538 million, essentially achieving universal coverage. The basic category for retired employees of enterprises, government agencies, and public institutions have seen annual increases, and the national minimum standard for basic insurance under the urban and rural residents' basic pension insurance has been raised on multiple occasions.

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Faced with the aging wave, the pressure on economic development has multiplied, and stimulating household consumption is crucial to the development of the domestic economic cycle. There is a risk of anti-globalization in the world today. As a major manufacturing country, China must turn its attention to boosting domestic demand and expanding the domestic market when foreign trade growth is weak. However, there is a consensus that China's residents' consumption level is relatively low. Past literature summarizes the reasons into three aspects: first, precautionary savings psychology [1]. Sun Feng pointed out that this motivation is determined by the fact that China's social security system still needs to be improved, mainly including residents' concerns about the uncertainty of future pension, education, and medical care. China's resident consumption rate dropped sharply from 48.79% in 1978 to 34.63% in 2010, and then rose slowly, but it fell again because of the impact of the pandemic. In 2021, it was only 38.48%, the lowest among the world's 12 largest economics. Second, the lack of consumption caused by uneven income distribution [2]. Zang Xuheng and Yi Xingjian found in their research that when the income gap between residents is too huge, the savings of the whole society will be much greater than the consumption of the whole society. In 2022, the Gini coefficient of per capita disposable income of Chinese residents was 0.467, which is at a relatively high level internationally. Third, the transformation of the type of residents' consumption demands [3]. Chen Bo found that after a long period of development, The consumption composition of residents in our country has changed. The structural mismatch between the existing supply structure and consumption demand will lead to residents' behaviors of postponing consumption. With the accelerated adoption of big data and artificial intelligence, some new consumption scenarios are constantly being innovated and expanded, such as live streaming, instant retail, the "night economy", digital consumption, AI games, etc. When residents receive pensions from endowment insurance, it will help to bridge the income distribution gap, reduce concerns about future uncertainties, and thus weaken the impact of the psychology of precautionary savings. At the same time, the increase in disposable income will also help to conduct consumption activities that meet new-type demands.

The role of pension insurance in driving household-level consumption growth is of significant importance. China's current pension insurance system operates under a pay-as-you-go model, which, drawing on the life cycle theory, overlapping generations theory, as well as the asset-income effect and wealth effect, can reduce the proportion of residents' savings over their life cycles. This mechanism effectively stimulates the growth of household consumption. Against this backdrop, this paper takes the relationship between pension insurance and household consumption as its core focus, aiming to explore the impact mechanism through which pension insurance influences household consumption. By systematically reviewing the evolutionary process of China's pension insurance system, integrating classic income distribution theories such as the life cycle theory and overlapping generations theory, and analyzing from the perspectives of income effect and wealth effect, this study proposes targeted countermeasures and suggestions. These measures are designed to unleash household consumption potential and promote high-quality economic development, thereby providing references for the reform of China's social security system and the implementation of the strategy to expand domestic demand.

2 Concept Introduction

2.1 Development and Differentiation of Pension Insurance System

The evolution of China's pension insurance system is fundamentally based on its history, having traversed different periods of development. According to different themes, the evolution of the pension insurance system has gone through stages of creation, destruction and stagnation, followed by recovery and adjustment, and then reached the stage of innovation and reform. Since the 1990s, China has gradually established a model combining social pooling with individual accounts, breaking the all-inclusive model operated by the state or enterprises.

Based on the household registration differences of insured persons, Urban and rural pension insurance form the dual-system framework of China's pension insurance.. There are several major differences: First, urban pension insurance covers urban employed populations, while rural pension insurance targets rural residents who are over 16 years old, have not enrolled in the basic pension insurance for urban employees and are primarily engaged in rural activities such as agricultural production. Second, urban pension insurance is mandatory, and the law ensures that people working in cities or employers fulfill their payment obligations. Rural pension insurance follows the principle of voluntariness. This situation is due to the unbalanced development of urban and rural economies, the strong emphasis on family-based pension concepts in rural areas, and the underdeveloped state of social pension systems there. The government guides farmers to participate in pension insurance and does not mandate their participation. Zhang Chuanchuan and Chen Binkai's research also found that under China's cultural and social contexts, social pension cannot completely replace family pension [4]. Third, urban pension insurance premiums are high and complex, with employers and individuals paying together, while rural pension insurance premiums are low and receive government subsidies.

2.2 Theoretical Research

Life Cycle Theory. The life cycle theory holds that individual consumption decisions are not based solely on current income, but are framed by the entire life span as the planning scope, with inter-period optimization as the logic, and conducts long-term dynamic planning throughout the life cycle. At the same time, Angus Deaton (2012) also continued to explore life cycle theory in depth. Consumers use savings and borrowing as means to smooth out consumption fluctuations at different stages of life. The life cycle theory puts forward the important concepts of "permanent income" and "wealth stock", emphasizing the impact of macro factors such as the social security system and bank interest rate levels on residents' consumption and savings behaviors. Based on the life cycle theory, pension insurance benefits are more important to residents' savings and consumption behaviors [5]. Because the period when pension insurance benefits take effect is generally in people's old age, during which people have no labor income, the safety-net role of pension insurance is prominent, which has a positive impact on both improving people's livelihood and promoting consumption.

Overlapping Generations Theory. The overlapping generations theory describes the economic interaction and intertemporal resource allocation mechanism of individuals across different generations. Weil and Philippe also conducted an in-depth exploration of the overlapping generations theory. The overlapping generations theory assumes that every individual in society always goes through different life cycle stages. Each generation accumulates savings during the "working period" and draws down savings in the "retirement period". Different individuals facilitate the intergenerational transfer of resources through the labor market, financial market, or public policy [6]. The essence of residents' pension insurance is to transfer part of the wealth accumulated during the "working period" to the "retirement period", so that people's consumption throughout their life cycle remains smooth and continuous, which can well promote the continuous consumption of residents.

3 Theoretical Mechanism of the Impact of Pension Insurance on Household Consumption

3.1 Income Effect

An important way for pension insurance to function effectively is to provide residents with a stable source of income and increase their disposable income. In early research, Lin and T.-B. found that pension insurance, by providing people with a fixed income during retirement, increased people's expectations of having certain future income, thereby promoting a positive income effect. According to the life cycle theory, individuals will arrange their current consumption based on their expectations of their total income over the course of their entire lives. Therefore, when the pension insurance system improves residents' expectations of future income and strengthens the guarantee of the stability of future income, people will have stronger consumer confidence, reduce precautionary savings driven by concerns about future uncertainties, and increase current consumption [7].

The public pension insurance system, to a certain extent, replaces the voluntary savings function of residents, especially the compulsory - contribution pension system, which means that residents do not need to rely on their own long - term substantial savings to cope with the risks of old age alone, so that more funds can be transferred to current consumption. This is another manifestation of the "income substitution effect". In essence, it is to promote current consumption by shifting forward people's expected income through public institutional arrangements [8]. As Li Jianying, Wang Luyin and Zhao Meifeng noted, increasing pension insurance fund outlays and enhancing pension insurance coverage can improve the consumption level of urban residents. In China, the transformation of Chinese residents from the traditional exogenous consumption pattern to the endogenous consumption behaviour pattern under the market economy system reflects a positive response to self-undertaking and dedicating to the future market, which will surely contribute to the further adjustment and deepening of China's economic system reform [9].

3.2 Wealth Effect

Another important way for pension insurance to function is to increase residents' consumption through the wealth effect. The funds accumulated in pension insurance accounts increase the total wealth of residents, thus boosting their propensity to consume. The pension insurance system, as a formal public institutional arrangement, is regarded by people as a long-term future income-generating asset, which has clear wealth attributes for residents.The pension insurance institutional architecture effectively enhances residents' confidence in the security of their future living income, thereby weakening their reliance on immediate-term savings and instead enhancing their current consumption propensity. The pension insurance system influences people's future expectations through such a mechanism, substantially enhancing the wealth of residents throughout their life cycle and forming a positive wealth effect [10]. As Zhao Qing and Li Zhen found, in areas with low average initial consumption levels, the consumption propensity resulting from the increase in basic pension insurance benefits is higher, while in areas with high initial consumption levels, the consumption propensity resulting from the increase in basic pension insurance benefits is lower.

4 Analysis of the Impact of Pension Insurance on Household Consumption

4.1 The Impact of Different Types of Pension Insurance

In terms of composition, China's pension insurance system is mainly based on the basic pension insurance for urban employees and urban-rural residents. There are obvious differences in the effects of the two on promoting residents' household consumption. Employee pension insurance mainly features compulsory participation and employer-funded contributions. Participants usually have higher income levels and also have more stable retirement prospects. Therefore, their pension disbursements are relatively sufficient, which offers more robust protection for residents' future income and can release greater consumption potential. As Zhao Qing and Li Zhen said, the consumption tendency of families with employee pension insurance participation is on the whole higher than that of urban-rural residents' pension insurance participants [11].

The protection level of urban-rural residents' basic insurance is relatively low, and it mostly relies on fiscal subsidies and personal contributions. Although the system has made notable progress in expanding coverage, its benefits are generally low, so its consumption-stimulating effect on low - and middle-income groups is limited. However, Zhao Qing and Li Zhen's research pointed out that urban-rural residents' pension insurance still plays a positive role in boosting basic consumption of rural elderly people, especially in rural families with limited income, where its marginal effect is more pronounced [11].

4.2 The Impact of Pension Insurance Protection Level

The level of the pension is an important variable that determines residents' consumer propensity. The higher the pension, the greater its "income replacement rate", the stronger its impact on the stability of expected income, and thus, weakening residents' precautionary savings motive. Huang Li's research shows that the core step in increasing the replacement rate of urban-rural residents' pensions is to adhere to the principle of mandatory participation. The government should exercise macro-management to ensure that the growth rate of basic pension subsidies and personal contributions will not be lower than the growth rate of rural residents' per capita net income.

At the same time, increasing the investment yield of personal account funds, extending the minimum payment period and raising the age limit for pension receipt can also contribute to improving the replacement rate of urban-rural residents' pensions [12]. It is worth noting that different groups have different responses to the improvement of the security level. Zhao Qing and Li Zhen pointed out that the promotion effect of the increase in basic benefits is more significant in areas with lower initial individual consumption levels, while the effect tends to be muted in those groups with higher consumption [11].

5 Conclusion

This study explores the correlation between the pension insurance system and household consumption. By integrating the life cycle theory and overlapping generations theory, it systematically investigates the mechanism through which insurance influences consumption behavior via the income effect and wealth effect. Through an analysis of the evolution, typological classification, and differential impacts of China's pension insurance system, it is revealed that the insurance for urban employees demonstrates a stronger stimulating effect on consumption. Meanwhile, even with limited benefit levels, the pension insurance for urban and rural residents still holds positive significance for low- and middle-income groups. Additionally, the improvement of economic standards and the continuous optimization of policies and systems can, while enhancing residents' expectations for future income, effectively increase their current consumption propensity. Overall, as a public social security system, pension insurance not only optimizes the pattern of family resource allocation at the economic level but also strengthens residents' consumption confidence at the psychological level. This article further proposes several policy recommendations. First, from the perspective of top-level design, the government should further increase the pension replacement rate, especially for urban and rural residents' insurance, and enhance its consumption-stimulating capacity by increasing financial subsidies, improving incentive mechanisms, and raising the security level. Second, it is necessary to accelerate the pace of system integration and promote the development of a multi-level security system to narrow the benefit gap among different groups, enabling more people to truly experience the sense of security and future control brought by insurance. Finally, future research can pay more attention to the impact of regional and generational disparities on consumption responses, and empirical investigations can also be conducted by integrating micro-level data to provide more solid theoretical support and practical foundations for advancing China's pension system reform and achieving internal economic circulation.

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