Effect of the introduction of Category 3 contributions on the adequacy and sustainability of the public pension system in Japan

Seiichi INAGAKI*
Graduate School of Innovation Management, Tokyo Institute of Technology

Abstract:

All people in Japan are covered by a basic pension. Currently, homemakers (Category 3 subscribers) make no contributions to the basic pension yet always receive full basic pensions. On the other hand, self-employed, non-regular employees, and unemployed people (Category 1) currently make contributions but receive pensions based on their payment periods. From the standpoint of fairness, whether Category 3 subscribers should contribute to the basic pension has been a controversial issue in Japan. This study assesses both the sustainability and the adequacy of the public pension system if the contribution of Category 3 subscribers were to be made mandatory. In particular, we modify official actuarial valuation results and examine the adequacy of pension benefits using a dynamic microsimulation model, the Integrated Analytical Model for Household Simulation. Mandatory contributions by Category 3 subscribers have a positive effect on the sustainability of the public pension system and a negative effect on its adequacy. However, their overall impact is not that large.

* inagaki@ier.hit-u.ac.jp

要旨

日本の公的年金制度では、すべての居住者が基礎年金の対象者となっているが、就業状態などによって加入区分（保険料・給付の仕組み）が異なっている。現行制度では、第 2 号被保険者（主に正規雇用者）の被扶養配偶者たる専業主婦は、第 3 号被保険者として区分され、保険料の納付を必要としないが、満額の基礎年金を受けることができる。これに対し、非正規雇用者や非就業者などの第 1 号被保険者は、保険料を納付する必要があり、保険料の未納期間などがある場合にはその期間に応じて基礎年金が減額される。公平性の観点などから、第 3 号被保険者も第 1 号被保険者と同様に保険料を納付する仕組みに改めるべきではないかという議論が提起されているが、そうした改革を行った場合における、年金財政の持続可能性や給付の十分性に関する定量的な推計結果（エビデンス）が示されておらず、抽象的な議論にとどまっている。そこで、本研究では、第 3 号被保険者の保険料納付を義務化したときにおける、これらの定量的な評価を行うことを目的とした。具体的には、第 3 号被保険者を廃止し、専業主婦もその他の非就業者等と同様に第 1 号被保険者とした場合を想定し、財政の持続可能性については 2009 年財政検証結果に基づき、給付の十分性についてはマイクロシミュレーションモデルを用いて推計を行った。財政の持続可能性については、基礎年金について加入区分の変更による財政影響がないよう、厚生年金から国民年金に積立金を 11.7 兆円移管することとしたことから、厚生年金（報酬比例年金）のみに財政影響があり、最終的な給付水準（40 年加入の平均的な男性）を月額 82,200 円から 87,400 円に 6.3%押し上げる効果があることが明らかとなった。一方、給付の十分性については、専業主婦について現在の第 1 号被保険者と同様に保険料の未納が起こりうることから、将来の高齢者の貧困率（世帯構成を考慮した生活扶助基準未満）が上昇し、2060 年における高齢女性の貧困率は 26.2%から 27.5%と 1.3 ポイント、高齢男性の貧困率は 13.5%から 14.2%と 0.7 ポイント高まる効果があることが明らかとなった。

1. Introduction

Japan has a two-tier public pension system that consists of a flat-rate benefit, known as the basic pension, and an earnings-related benefit for regular employees, as depicted in Figure 1. All people in Japan are covered by the basic pension, and are classified by their occupation. Regular employees are classified as Category 2 subscribers, and are also covered by the Employees' Pension Insurance. Dependent spouses of Category 2 subscribers are classified as Category 3 and all others as Category 1. Category 3 subscribers are composed of mainly homemakers, while Category 1 subscribers tend to be self-employed, non-regular employees, and unemployed people.

Table 1 summarizes the contributions and benefits by category. Category 1 subscribers pay a contribution of ¥15,240 (€112), and they will receive a basic pension of ¥64,400 (€474). However, if they do not pay their contribution, their basic pension will be reduced according to the non-payment period.

The basic pension contributions for Category 2 and 3 subscribers are included in the insured person's contribution to the Employees' Pension Insurance or the Mutual-Aid Associations. The contribution in 2014 is 17.12% of Category 2 subscribers' pensionable remuneration in equal amounts by employer and employed. Employers deduct employees' contributions from their salaries, and pay the contributions to the insurers. The insurers then transfer the paid contribution to the basic pension program. Because employers pay their employees' contributions directly to the insurers, non-payment of contributions is not a problem, as in the case of Category 1 subscribers.

Under this classification, Category 3 subscribers do not have to contribute to the basic pension but they are deemed to have paid their contributions, and thus, are entitled to a full basic pension. On the contrary, Category 1 subscribers must pay their own contributions. As a result, Category 3 subscribers always receive a full basic pension, while Category 1 subscribers receive a basic pension calculated by their periods of payment.

From the standpoint of fairness, whether Category 3 subscribers should contribute to the basic pension has been a controversial issue in Japan. This study assesses both the sustainability and the adequacy of the public pension system if the contribution of Category 3 subscribers were to be made mandatory. Figure 2 depicts the new pension scheme in which Category 3 contributions are introduced. In other words, the category of "homemakers" is changed from Category 3 to Category 1. In this study, we assess the sustainability and adequacy of the pension scheme under the new plan, as depicted in Figure 2.

2. Methods

This study assesses both the sustainability and adequacy of the public pension scheme under mandatory contributions by Category 3 subscribers. Regarding sustainability, we estimate the level of pension benefit in the future by modifying the results of the 2009 Actuarial Valuation (Ministry of Health, labor, and Welfare, 2010). Regarding adequacy, we estimate poverty rates to evaluate the effect of this reform using a dynamic microsimulation model known as the Integrated Analytical Model for Household Simulation (INAHSIM, Inagaki, 2007).

2.1. The 2009 Actuarial Valuation

The public pension scheme in Japan is not a defined benefit plan but a defined contribution plan. Therefore, the main purpose of the actuarial valuation is to calculate by how much to adjust the level of pension benefits to achieve the financial equilibrium of the pension accounts. There are two pension accounts, namely, the National Pension (NP) account for Category 1, and the Employees' Pension Insurance (EPI) account for Categories 2 and 3.

According to the 2009 Actuarial Valuation, the Basic Pension should be reduced by 26.9% from ¥64,400 (€474) to ¥47,100 (€346) on a full basic pension basis, and the earning-related benefit should be reduced by 8.8% from ¥90,200 (€663) to ¥82,200 (€605) on average.

Figures 3 and 4 show the financial projections of the NP and EPI accounts. The reserve in NP account would run out by 2029 if the Basic Pension were maintained at the current level. The reserve in the EPI account would also run out by 2053 if the earning-related benefit were maintained at the current level.

2.2. Dynamic microsimulation model Integrated Analytical Model for Household Simulation (INAHSIM)

The INAHSIM is a dynamic microsimulation model for Japan. It was originally developed in the early 1980s as a household simulation model tailored to Japanese society. The simulation cycle of INAHSIM version 3.7[1] is shown in Figure 5. In this model, life events are assumed to occur in annual cycles. The life events incorporated in

[1] Refer to Inagaki (2005, 2007, 2010, 2014) for details.

this model are marriage, birth, death, divorce, international migration, changes in health status, changes in employment status, estimated earnings, adjustment of pension benefits, young people leaving home, living with elderly parents, entering an institution, and paying the pension premium.

The initial population is prepared by using the 2004 Comprehensive Survey of Living Conditions (CSLC)[2] conducted by the Ministry of Health, Labor and Welfare. This survey is conducted every three years using large sample sizes. In the 2004 survey, the sample size comprised 25,091 households and 72,487 household members. The survey covers kinship relationships of household members, marital status, employment status, need for long-term care, earnings, pension amounts, and other socioeconomic characteristics. The initial population of 49,307 private households and 126,570 household members is prepared by resampling with replacement from micro data. The elderly population of 1,212 persons in institutional households is prepared separately and then added to the initial population. In the end, the initial population includes 127,782 people and reflects Japan's society on a 1/1,000 scale.

3. Results

3.1. Sustainability

If contributions by Category 3 members were introduced, the income of the pension accounts would increase on the whole. On the other hand, the total expenditure would not increase. It is possible that some homemakers, current Category 3 subscribers, would not pay their contributions like the current Category 1 subscribers. In such cases, both the total expenditure and income would be reduced because the subscribers' Basic Pension would be reduced according to the non-payment periods. Therefore, the sustainability of the pension accounts would improve.

The 2009 Actuarial Valuation estimated that the total number of Category 3 subscribers in 2014 would be 9,620,000 people. Because a monthly contribution was ¥15,240 in 2014, it is expected that the total income from their contributions would be ¥1.8 trillion (€12.9 billion) per year. However, the entire contribution income under the current pension scheme in 2014 is expected to be ¥38 trillion (€2,792 billion)[3], and

[2] The data used in this study were made available to the author by the Ministry of Health, Labor and Welfare of Japan, notice number No.0925-6, dated September 25, 2014.
[3] The contribution incomes are ¥2.4 trillion (€17.4 billion) for the NP account, ¥30.3 trillion (€222.8 billion) for the EPI account, and ¥5.3 trillion (€39.1 billion) for mutual aid associations.

Category 3 contributions would amount to only 4.6% of total contribution income. Therefore, the impact on improved sustainability would be limited.

The author estimates the level of pension benefit by modifying the 2009 Actuarial Valuation results. It is necessary to transfer a certain portion of reserve funds from the EPI account (including the mutual aid funds' accounts) to the NP account owing to the fairness[4] between these accounts. As a result, the earning-related benefit could be raised 6.3% from ¥82,200 (€605) to ¥87,400 (€643).

3.2. Adequacy

Because almost all Category 3 subscribers are females, adequacy is focused on females. In this study, the author compares the current scheme and new scheme, in which homemakers move from Category 3 to 1, in terms of the distribution of pension amount and trends in poverty rates for the elderly. Under the new scheme, the contribution payment behavior of the homemakers (new Category 1 subscribers) is the same as that of the current Category 1 subscribers.

Figure 6 compares the distribution of pension amounts among females in 2060. There is a small difference between the current plan and the new plan, but the introduction of Category 3 contributions would increase the share of low pension benefits. This is because some homemakers may not pay their contributions. However, the number of Category 3 subscribers is about one third of the female population, and many of them would pay their contributions. Therefore, the difference in distribution between the two plans would not be so great.

Figure 7 shows future trends in poverty rates for the elderly by sex. The poverty line indicator that is used in this study is the level of livelihood assistance benefits. The introduction of Category 3 contributions would primarily affect female old-age pensions but it would also affect old-age couple's income. Therefore, there would be an effect on poverty rates for males. However, the effects would not be great, or a few percent, as seen in the distribution of pension amounts.

4. Conclusion

From the standpoint of fairness, it has been a controversial issue in Japan whether

[4] In this study, the author estimates the amount of reserve funds to be transferred under the condition that there would be no effect on the level of Basic Pension. The estimated amount is ¥11.7 trillion (€86.2 billion).

Category 3 subscribers should contribute to the basic pension. However, this is an abstract argument because it is not based on evidence. Therefore, this study assessed both the sustainability and the adequacy of the public pension system under a scenario of mandatory contributions by Category 3 subscribers.

Sustainability was assessed by modifying the 2009 Actuarial Valuation results. The results show a positive effect of Category 3 contributions on sustainability but their impact is not that large.

Adequacy was assessed by using the dynamic microsimulation model, INAHSIM. The results show a negative effect of Category 3 contributions on adequacy but their impact is not that large overall because homemakers are becoming less common in Japan.

In other words, the financial effect of Category 3 contributions on both sustainability and adequacy is not of great concern. Policy for homemakers is important and essential. Even though the number of homemakers in Japan is decreasing, the question is whether policy should encourage women to become homemakers.

There is great disparity in the poverty rate between men and women, as seen in Figure 7. The main cause of this disparity is inequality of wages and working conditions between men and women (Inagaki, 2014). In addition, women live longer than men do, and thus, women have higher risk of occupying a single-person household. The social system in Japan is generous for full-time homemakers because it has been established based on old traditions. As Japanese lifestyles are changing and diversifying, the social system should be reformed accordingly.

Acknowledgements

This paper is part of the academic project on Economic Analysis of Intergenerational Issues: Searching for Further Development, funded by the Grant-in-Aid for Specially Promoted Research from Japan's Ministry of Education, Culture, Sports, Science and Technology (grant number 22000001).

References

Inagaki, Seiichi (2005), "Projections of the Japanese Socio-Economic Structure Using a Microsimulation Model (INAHSIM)," *IPSS Discussion Paper Series* No. 2005-03, National Institute of Population and Social Security Research.

Inagaki, Seiichi (2007), *Future Socio-Demographic Population Structure of Japan: Projections by a Dynamic Microsimulation Model (INAHSIM)*, Tokyo: Japan Statistical Association (in Japanese).

Inagaki, Seiichi (2010), "Overview of INAHSIM: A Microsimulation Model for Japan," *PIE/CIS Discussion Paper* No. 468, Institute of Economic Research, Hitotsubashi University.

Inagaki, Seiichi (2014), "The effect of changes in nuptiality behavior after the 1980s on the poverty rate for the elderly in Japan—Analysis using a dynamic microsimulation model," *The Review of Socionetwork Strategies*, 8(1), Springer Japan, pp. 1–18.

Ministry of Health, Labor and Welfare, Pension Bureau, Actuarial Division (2010), "The 2009 Actuarial Valuation of the Employees' Pension Insurance and the National Pension," *Report of the 2009 Actuarial Valuation*, pp. 33–48.

Table and figures

Table 1 Contributions and benefits (per month)

	Contribution	Benefit (40 years of service)
Category 1 Non-regular employees	¥15,240 (€112)	Basic pension: 64,400 JPY(€474) *(The amount will be reduced according to the non-payment period)*
Category 2 Regular employees	17.12% of PR(*) Employee: ¥35,207 Employer: ¥35,207 (€259)	Basic pension: 64,400 JPY(€474) Earnings-related benefit: 21.924% of PR(*) ¥90,173 (€663) Total amount: ¥154,573 (€1,137)
Category 3 Homemakers	None	Basic pension: ¥64,400 (€474) Survivors' benefits: ¥67,603 (€497) Survivors' total: ¥132,003 (€971)

Note: Average Pensionable Remuneration (PR) for males was ¥411,298 (€3,025) in 2012.

Figure 1 Public pension scheme in Japan

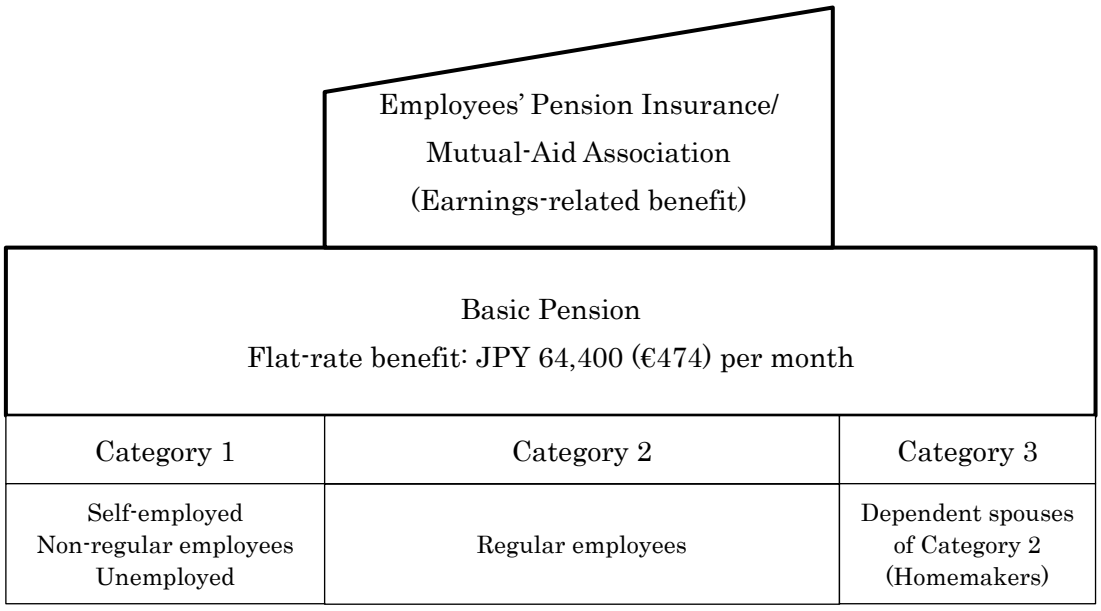

Figure 2 Introduction of Category 3 contributions

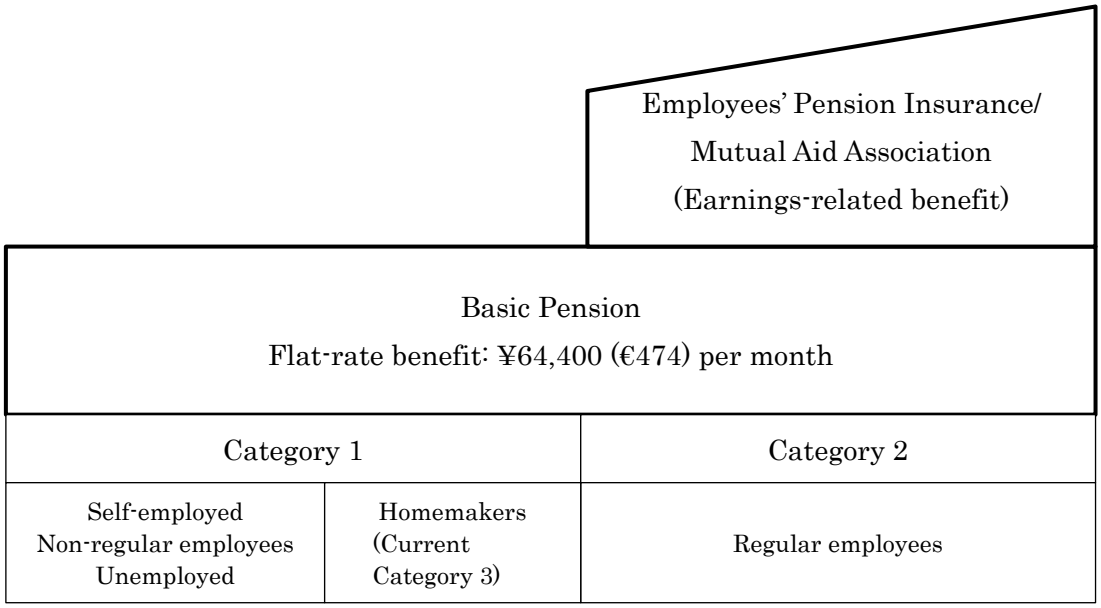

Figure 3 Financial projections for NP account

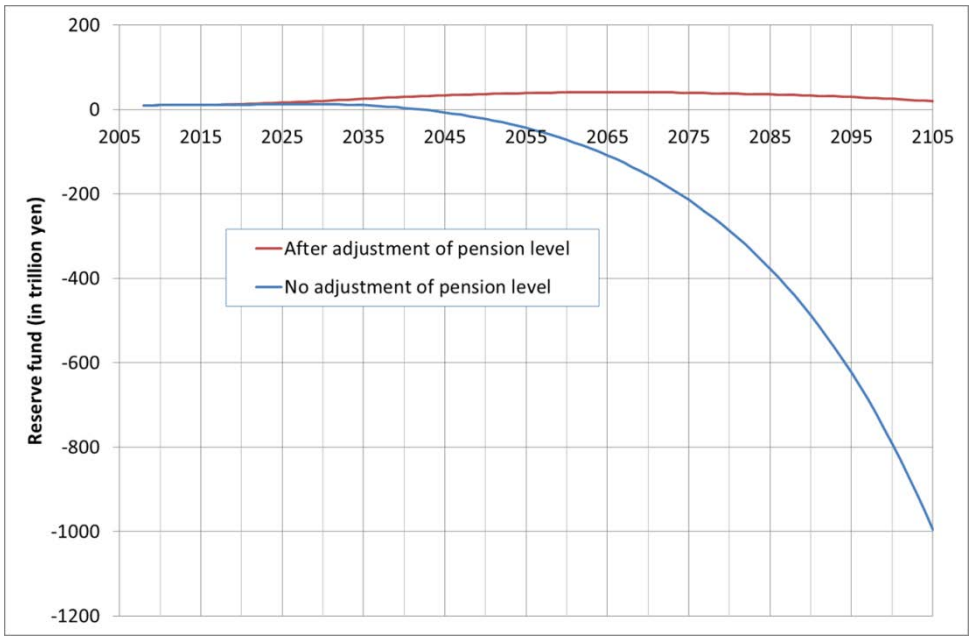

Figure 4 Financial projections for EPI account

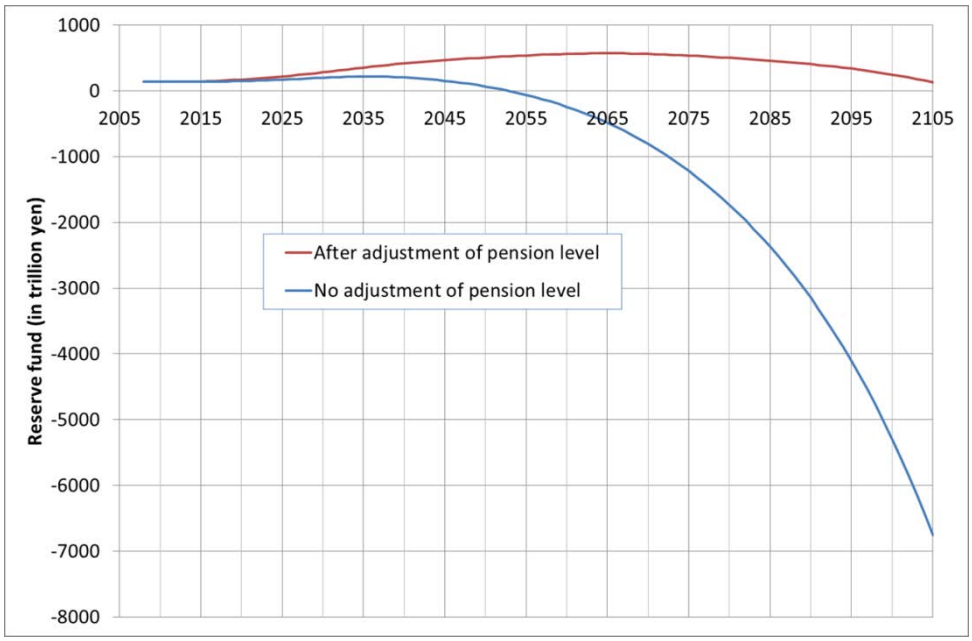

Figure 5 Simulation cycle of INAHSIM

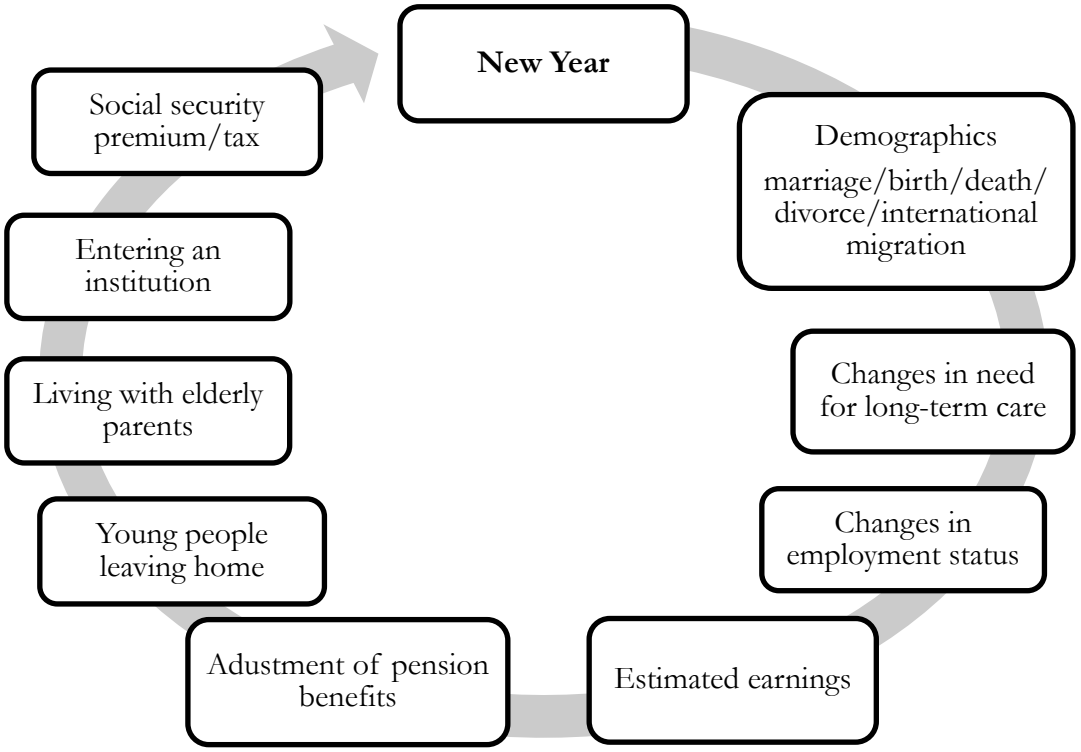

Figure 6 Distribution of pension amounts (females)

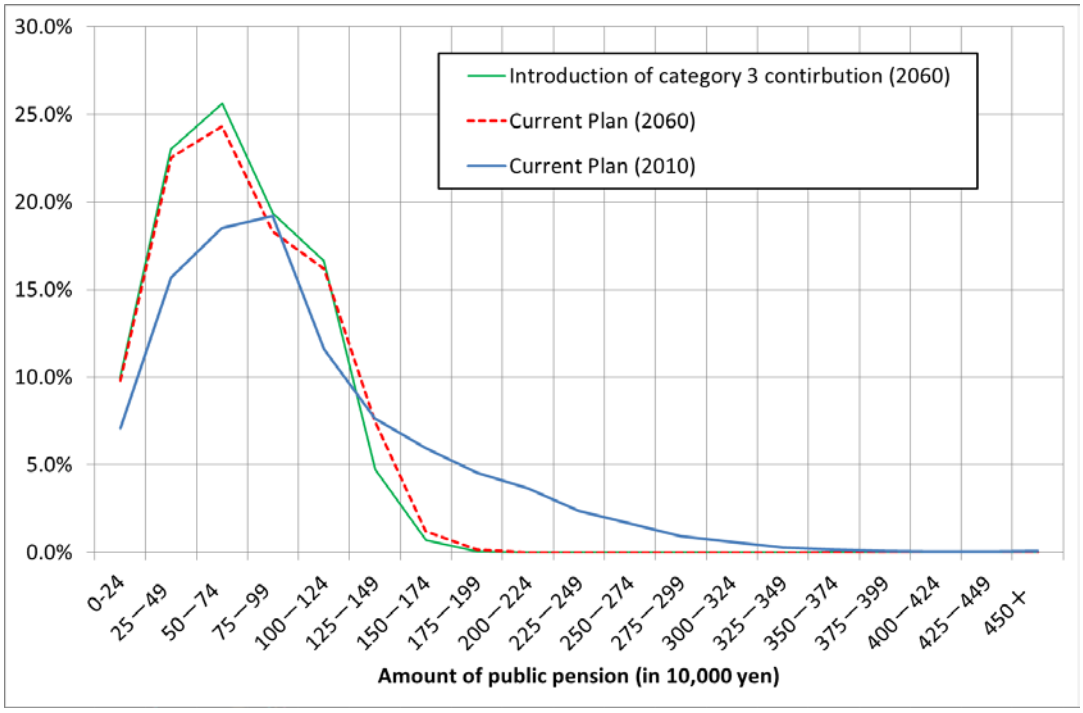

Figure 7 Future trends in poverty rates for the elderly