

# **A Statistical Analysis of the Differences between People Who Pay Pension Premium and Those Who Do Not Using Web-Based Survey**

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## **Abstract.**

At the present day, Japanese public pension system is burdened by many problems (e.g., aging population combined with the diminishing number of children, tardy economic growth etc.). One of the biggest problems is that Japanese national pension become hollowed out. This means that many people refuse to join or not to pay pension premiums.

The purpose of this article is to clarify some factors behind pension premium un-payment behavior. Moreover, it is discovered the differences between people who pay pension premium and those who do not.

In this article, as a background of this study, firstly, the author would like to explain the current situation surrounding Japanese public pension system. As stated above, the current situation surrounding Japanese public pension system is getting worse with each succeeding day.

Secondly, the author would like to explain about the survey data used in this analysis. The survey data that is used in this analysis was made via the Internet and included two thousand eight men and women. In addition, all of them are "first insured people" in Japanese public pension system. Also this survey includes economical and social-psychological variables.

Thirdly, the author would like to explain about methods of analysis. Logistic regression model is used to clarify some factors behind people's pension premium un-payment behavior. Twenty six variables are entered for analysis. Some crucial elements are identified from backward-forward selection method (likelihood ratio). Also, the author would like to show other methods for clarifying the factors behind people's un-payment behavior, e.g., the difference in the subjective discount rate between people who pay pension premium and those who do not, and so on.

At this writing, it is clarified that the probability of pension premium un-payment is increased with increasing "personal income". On the other hand, the probability of pension premium un-payment is decreased with increasing "age", "household's saving deposit", "educational qualification", "degree of confidence in public pension system". In addition, it is clarified that the subjective discount rate of people who do not pay pension premium is higher than that of people who pay pension premium.

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From now on, a continuous research of the factor behind people's un-payment behavior and its effect on public pension system would strengthen this proposition stated in this article.

**Keywords:** Pension System, Un-payment Behavior, the Subjective Discount Rate, Hyperbolic Discounting