The index for retired elderly households

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Abstract

The elderly are one of the most important policy targets in Japan due to the rapidly aging population and the declining birthrate. Under the circumstances, in August 2011 the Statistics Bureau of Japan will begin to publish "the index for retired elderly households" on a monthly basis as a tool to analyze the impact of price changes on the elderly households.

In computing "the index for retired elderly households" the same item-level indices as for the official all items index are used, while the weights of the indices are computed by the consumption pattern of the elderly households.

This paper presents the way of computing "the index for retired elderly households" and verifies its validity by comparing the results with the official all items index.

1 Introduction

Japan has been experiencing the rapidest population aging in the world. The rate of aging (proportion of over 65 years of age in total population) in Japan is approximately 23.1% in 2010. The population aging will be more rapid since a few years later since the baby boomer (which means born during a period when a lot of babies were born) will be over age 60. The population aging is one of the largest social matters, especially in connection with cost for social security. The importance of the statistics of the current status of the elderly households is increasing. To such the needs, the Statistics Bureau of Japan (SBJ) in August 2011 will begin to publish "the index for retired elderly households" (CPI-E). The new index, CPI-E will be one of the specific indices[1] by characteristics of households, the weight of which are calculated by the spending patterns of the corresponding specific households.

In this paper, I calculated the experimental CPI-E and analyzed the characteristics of the experimental CPI-E by comparing to CPI.

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[1]
(1) Subgroup Index by Yearly Income Quintile Groups of Workers' Households.
(2) Ten Major Group Index by 10 Age Groups of Household Head.
(3) Ten Major Group Index by 9 Occupation Groups of Household Head.
(4) Ten Major Group Index by 4 Types of Tenure of Dwelling such as owned houses, Privately-owned rented houses, and Publicly-owned rented houses.

2 Background

The CPI is a very important statistics to properly plan economic policies. For national pension and employee's pension, it is set in law to correct actual benefit level according to price movements and the CPI is used as an indicator to show these movements. In addition to this, the CPI is also used as the basis for the decision of financial policy in Bank of Japan. Furthermore, it is used as a reference for many purposes both in public and private sector, such as revisions of wages, house rents and utilities.

Japan's recent price level remains nearly-unchanged for several years. Therefore the wage and pension benefits have not increased and there has been growing interest in Price Statistics. Especially the public pension benefit is scheduled to be reduced in 2011FY. News report about reduced pension has caused considerable concern. Furthermore a few years later, the baby-boomer will be over the age of 60, and population aging will be more rapid. Under the circumstances, the need to provide information as a tool for analyzing more precisely the impact of population aging is increasing. For this reason, SBJ newly will publish the CPI-E.

3 Calculation procedures

In this paper, I calculated two CPI-E based on two different elderly groups. One is the index over the age of 60 (CPI-E60), and the other is the index over the age of 65 (CPI-E65). The reason why I calculated two CPI-E is as follows:

- In Japan, the definition of the elderly is somewhat ambiguous and usually used as those over age of 60 or 65.

- Many householders retire from regular employment and become unemployed at the age of 60 since most companies in Japan adopt the age 60 retirement system.

- On the other hand, the importance of people over 65 is increasing because the pensionable age of the public system will be gradually raised from 60 to 65.

The CPI-E60 and the CPI-E65 were calculated using these price data from 2005 to 2010 and weights. The calculation procedures are as follows:

First, I calculated the weights by using the spending pattern of the retired elderly households from the result of 2005 Family Income and Expenditure Survey (FIES). Secondly, I calculated the CPI-E from the price data from 2005 to 2010 and the weight. We compared the CPI-Es with the CPI and analyzed it

Table1 Number of tabulated households of FIES (2005 Yearly Average)

| Two-or-more-person households					
Total	Workers' Households	Other Households	Retired elderly households		
			Total	Householder 60 and over	Of householder 65 and over
7,891	4,381	3,510	2,049	1,930	1,609
100%	56%	44%	26% (100%)	24% (94%)	20% (79%)

4 The results

The results are as follows:

(1) Weights

Among the ten major groups, the weights of "Food", "Housing," "Fuel, light & water charges", and "Medical care" in the CPI-E60 and the CPI-E65 are higher than those in the CPI, and the weights of "Clothes & footwear", "Transportation & communication", and "Education" in the CPI-E60 and the CPI-E65 are lower than those in the CPI.(Fig.1) Especially, the weight of "Communication" including "Mobile telephone charges" in the CPI is high, and that of "Education" are remarkable high.

Figure1　The weights of the ten major groups
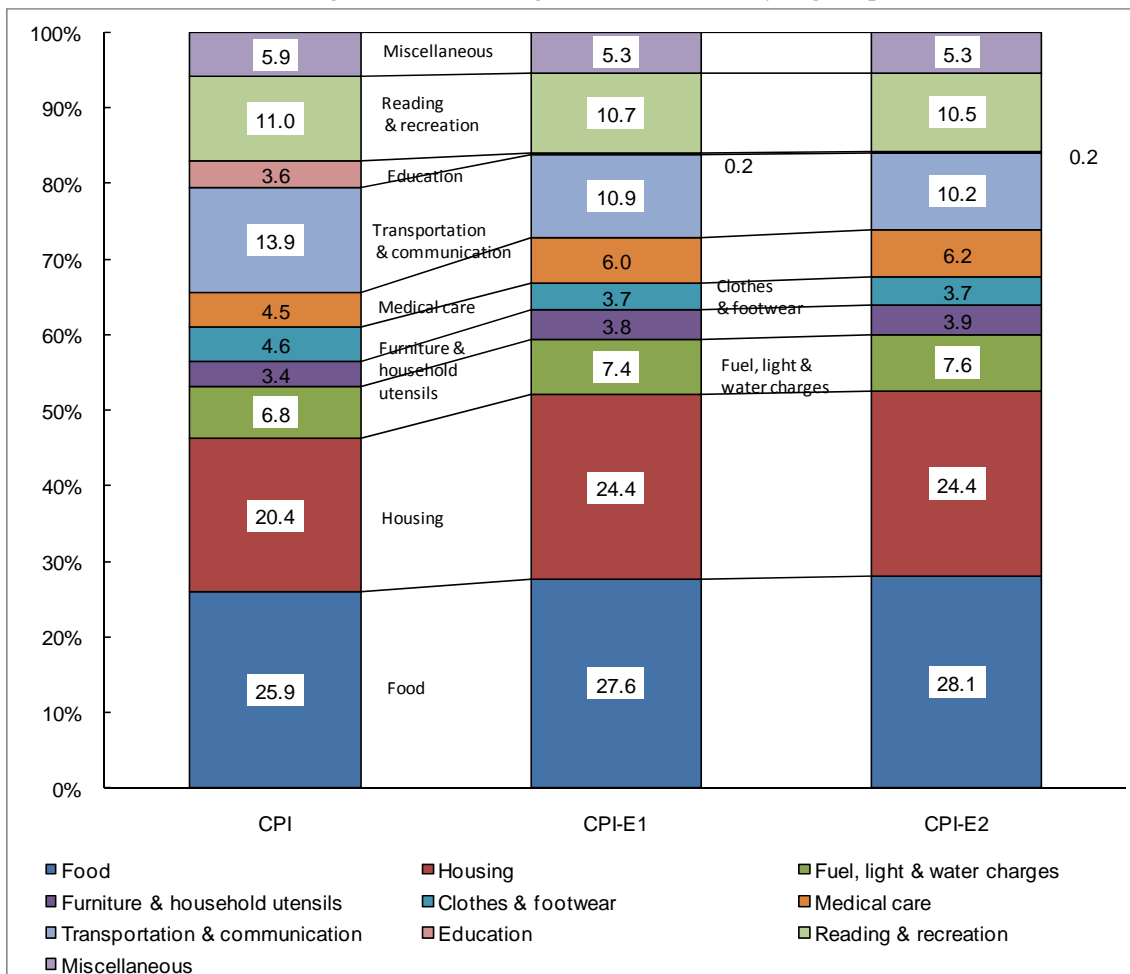
(2) Indices

Food

Figure2 shows the trends of these indices of "Food" are almost same, but at item level there are some differences. Particularly, differences between CPI-Es and CPI of "Cereals" are large since 2008(Fig.3). These differences are mainly caused by that the impact of soaring world wheat prices in 2008 on the elderly households is comparatively small. The differences of the impacts are induced from that the elderly persons in Japan tend to have Rice, Japanese traditional style food than Bread.

Figure2 CPI-E60, CPI-E65 and CPI of "Food" from 2005 to 2010

Food

2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	100.5	100.8	103.4	103.6	103.3
CPI-60	100.0	100.6	101.0	103.3	103.4	103.3
CPI-65	100.0	100.6	101.0	103.3	103.3	103.3
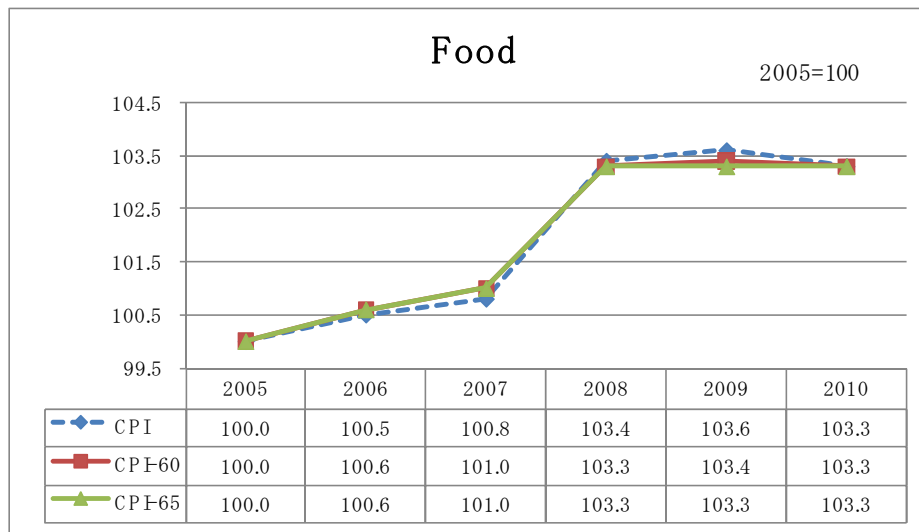
Figure3 CPI-E60, CPI-E65 and CPI of "Cereals" from 2005 to 2010

Cereals

2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	98.3	97.8	104.1	104.9	101.5
CPI-60	100.0	98.0	97.3	102.3	103.0	99.7
CPI-65	100.0	98.0	97.3	102.1	102.8	99.5
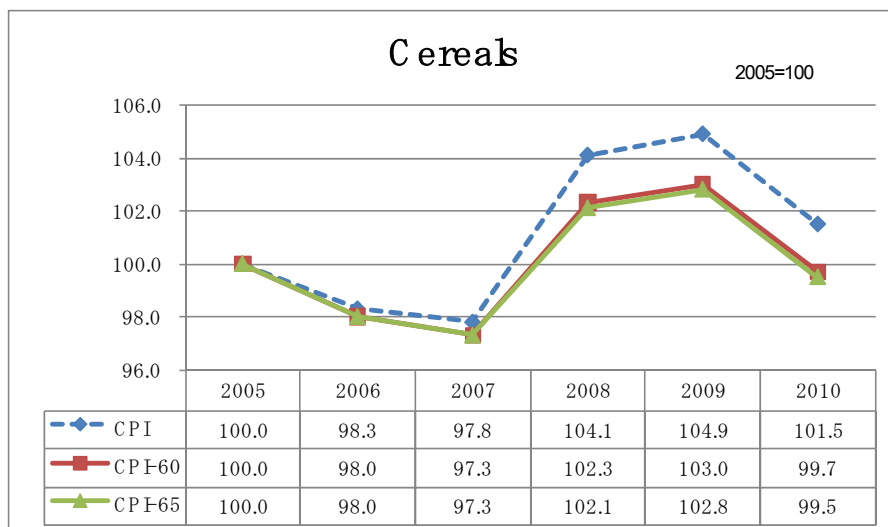
Table3 The weights (per 10000)

	CPI	CPI-E60	CPI-E65
Food	2586	2761	2806
Cereals	219	249	254

Medical care

Figure4 shows the trends of the CPI-Es of "Medical care" are different from that of the CPI since 2009. The difference is mainly caused by that the impact of the raising of delivery fees. Delivery fees rose due to the fact that the medical system was revised aiming for higher quality maternity care in 2009. The influence of it on the elderly households is small.

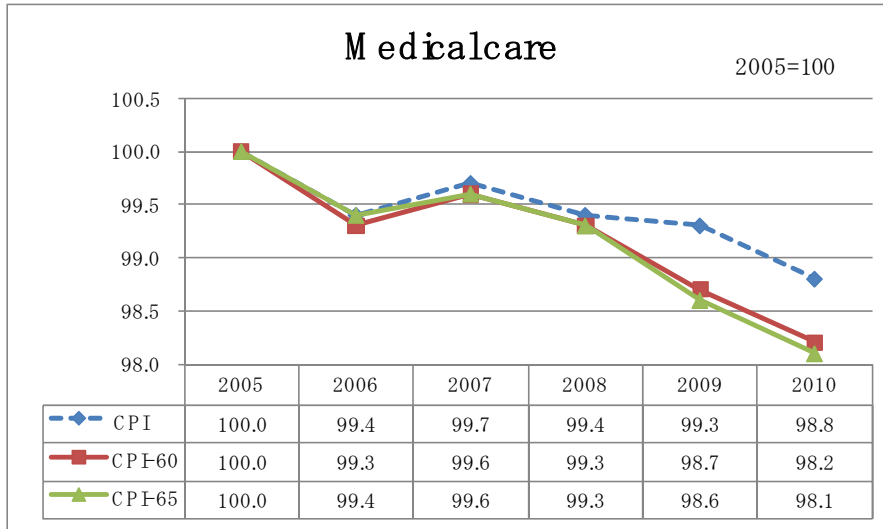Figure4 CPI-E60, CPI-E65 and CPI of "Medical care" from 2005 to 2010

Medical care 2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	99.4	99.7	99.4	99.3	98.8
CPI-60	100.0	99.3	99.6	99.3	98.7	98.2
CPI-65	100.0	99.4	99.6	99.3	98.6	98.1

Figure5 CPI-E60, CPI-E65 and CPI of "Medical services" from 2005 to 2010

Medical services 2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	99.4	100.6	100.8	102.5	103.2
CPI-60	100.0	99.3	100.3	100.3	101.1	101.5
CPI-65	100.0	99.3	100.3	100.3	101.0	101.4
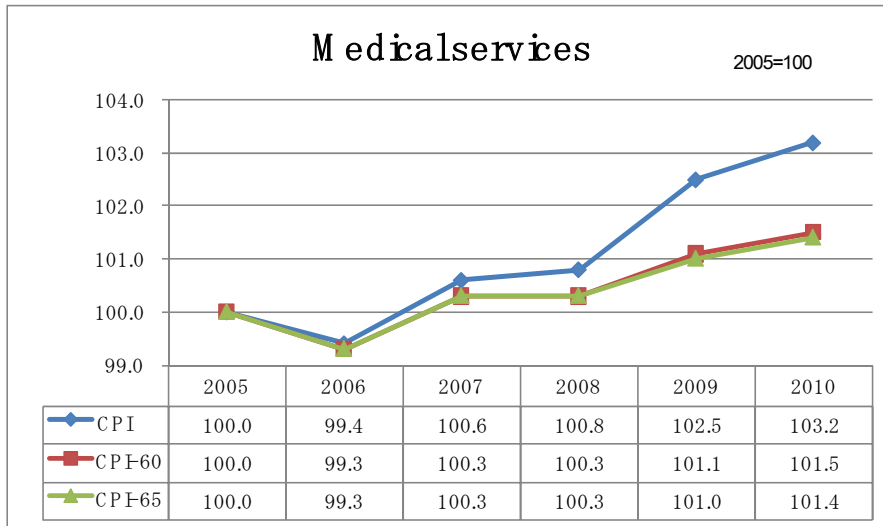
Table4 The weights(per 10000)

	CPI	CPI-E60	CPI-E65
Medical care	448	598	616
Medical services	241	345	348

Transportation & communication

Figure6 shows the trends of the CPI-Es of "Transportation & communication" are different from that of the CPI since 2006. Particularly, differences between CPI-Es and CPI of "Communication" are large since 2006(Fig.7). The difference is mainly caused by that mobile telephone charges declined. Because mobile phone carries introduced various inexpensive price plans in 2006 and 2007. The influence of the reduction of the mobile telephone charges on the elderly households is small.

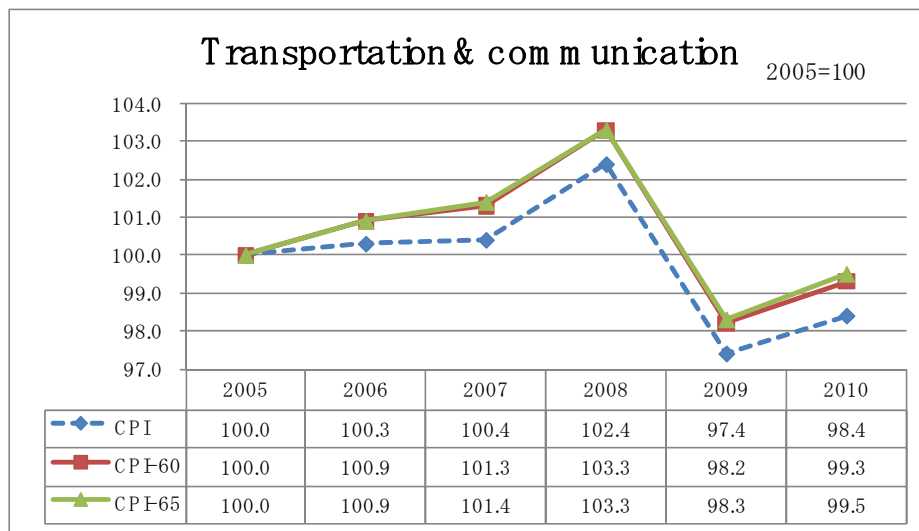Figure6 CPI-E60, CPI-E65 and CPI of "Transportation & communication" from 2005 to 2010

Transportation & communication (2005=100)

	2005	2006	2007	2008	2009	2010
CPI	100.0	100.3	100.4	102.4	97.4	98.4
CPI-60	100.0	100.9	101.3	103.3	98.2	99.3
CPI-65	100.0	100.9	101.4	103.3	98.3	99.5

Figure7 CPI-E60, CPI-E65 and CPI of "Communication" from 2005 to 2010

Communication (2005=100)

	2005	2006	2007	2008	2009	2010
CPI	100.0	96.4	94.4	94.4	94.0	93.3
CPI-60	100.0	98.0	97.1	97.0	96.4	95.9
CPI-65	100.0	98.2	97.4	97.3	96.7	96.2
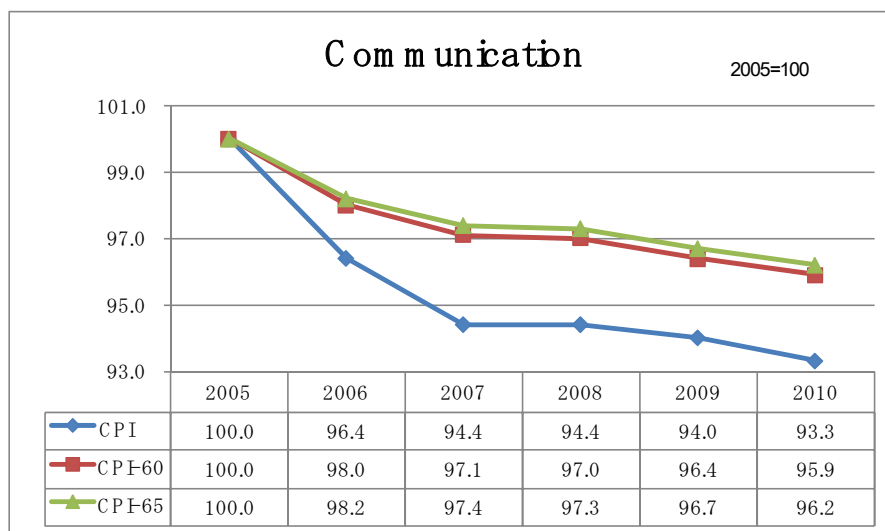
Table5 The weights(per 10000)

	CPI	CPI-E60	CPI-E65
Transportation & communication	1392	1093	1024
Communication	364	245	241

Reading & recreation

Figure8 shows the trends of the CPI-Es of "Reading & recreation" are somewhat different from that of the CPI, and at item level, the indices of "Recreation services" are different in 2008. The difference is mainly caused by the raise of fuel surcharge by the soaring world oil prices in 2008. The impact of the raise of fuel surcharge on the elderly households is comparatively large. The large impact is induced from that the elderly tend to travel abroad more frequently than the younger in Japan, for they retired from their job and have much spare time.

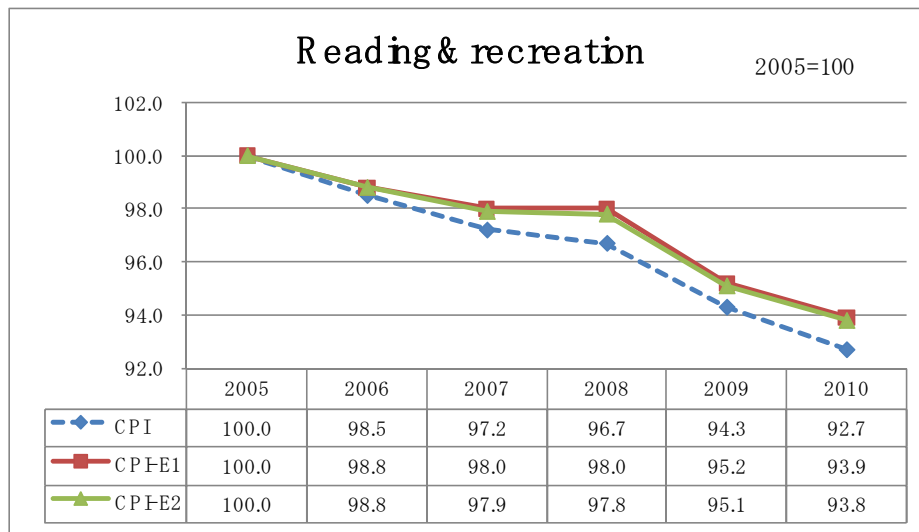Figure8 CPI-E60, CPI-E65 and CPI of "Reading & recreation" from 2005 to 2010

Reading & recreation
2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	98.5	97.2	96.7	94.3	92.7
CPI-E1	100.0	98.8	98.0	98.0	95.2	93.9
CPI-E2	100.0	98.8	97.9	97.8	95.1	93.8

Figure9 CPI-E60, CPI-E65 and CPI of "Recreation services" from 2005 to 2010

Recreation services
2005=100

	2005	2006	2007	2008	2009	2010
CPI	100.0	100.7	101.6	102.9	101.0	100.8
CPI-60	100.0	101.0	102.0	103.8	101.0	100.8
CPI-65	100.0	100.9	101.8	103.4	100.9	100.6
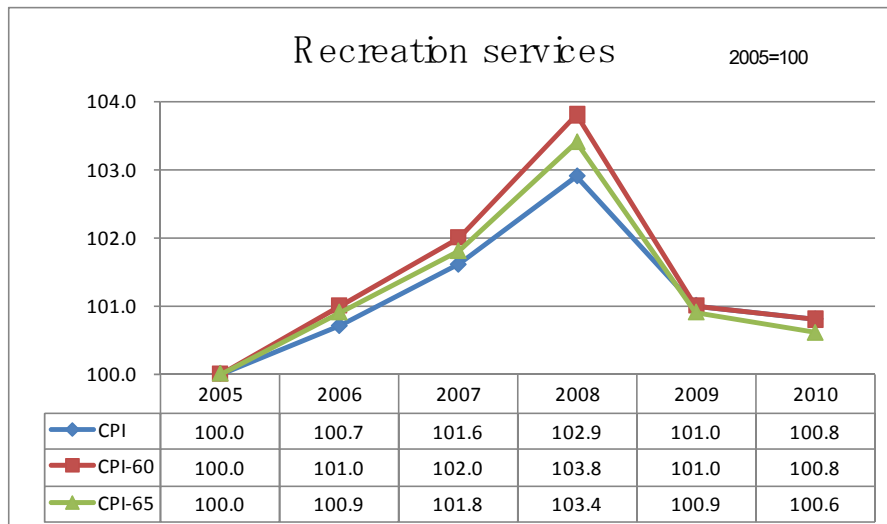
Table6 The weights(per 10000)

	CPI	CPI-E60	CPI-E65
Reading & recreation	1100	1069	1049
Recreational services s	588	587	563

All items less fresh food

The CPI-Es of "All items less fresh food" rose somewhat higher than that of the CPI since 2006. These reasons are as follows:

① The CPI-Es of "Transportation & communication" is higher than that of the CPI.

② The CPI-Es of "Reading & recreation" is higher than that of the CPI.

③ "Education" fell drastically due to the introduction of new subsidies for tuition and enrollment fees for high schools in 2010. The impact of it on the elderly households is small.

But there is no distinctive difference between CPI-Es and CPI because the effects of items such as "Food", and "Medical care" offset the effects of the above items

Figure10 CPI-E60, CPI-E65 and CPI of "All items less fresh food" from 2005 to 2010

All items less food

	2005	2006	2007	2008	2009	2010
CPI	100.0	100.1	100.1	101.6	100.3	99.3
CPI-60	100.0	100.2	100.2	101.7	100.4	99.7
CPI-65	100.0	100.2	100.2	101.7	100.4	99.7

5 Conclusion

SBJ will begin to publish the CPI-E in this August, when SBJ revise the CPI from 2005-base to 2010-base. This revision attracts many persons or organs such as the governmental ministries, a central bank, and market players.

The above analysis shows there is not much difference between the CPI-E60 and the CPI-E65. Then SBJ adopt the CPI-E60 as the CPI-E, for that target population is larger and therefore that index is more stable.

The Japanese aging rate is projected to exceed 30% in 2030. In such a situation, it is very important to grasp the influence of the prices change for the pensioner. I hope that the CPI-E provides valuable information.