

## II Outline of the 2015-Base Revision of the Consumer Price Index

### 1 Purpose of revision and statistical standard

The base period of the CPI is periodically revised (“base revision”), items and weights are reviewed, and new groupings are increased and refined for publishing to maintain and improve the accuracy of measuring consumer prices, and to ensure the validity of price index.

The CPI has been revised every five years since 1955. The base period is revised to 2015-base in accordance with the statistical standard pursuant to the Statistics Act, “Statistical standard on the base period of index” (the Ministry of Internal Affairs and Communications Notice No. 112, 2010) (refer to “VIII 3 Statistical standard on the base period of index”, hereinafter abbreviated to “statistical standard.”)

### 2 Revision of the index reference period

The index reference period of index (the year of setting index 100) will be revised from 2010 to 2015 in accordance with the provision of the statistical standard which defines that the reference period of the index should be revised every five years, in the years with 0 or 5 in the last digit.

The old and new indices are linked to enable time-series comparison of each index grouping, provided that the rates of change including month-to-month, year-ago month or year-on-year are not recalculated with the linked indices, and the figures already published in each of former bases are used.

### 3 Revision of weights

The weights used for calculating the index by the fixed-base method are computed based on the average monthly expenditures by item per household in 2015, which is the same year as the index reference period to update, using the result of the FIES, etc. in accordance with the provision of statistical standard stipulating that “the index with a fixed weight shall be calculated from the weight of the year which is the reference year of that index.” Note that the household consists of two or more persons (excluding the index for total household).

Because there is a large fluctuation in monthly purchase quantities by item, monthly weights for fresh food (fresh fish & seafood, fresh vegetables and fresh fruits) are calculated using the monthly purchase quantities in 2014 and 2015 in addition to the expenditures by item in 2015 in the FIES (the monthly group weights for fresh fish & seafood, fresh vegetables and fresh fruits are fixed for the entire year). Moreover, the expenditures of “pocket money” and “social expenses” in the FIES are allocated to other CPI items in accordance with the results of the “Personal living expenditures” in 2014 NSFIE. The weights for the imputed rent are also calculated based on the “Imputed rent” in 2014 NSFIE.

The weights used for calculating the index by the chain-linking method are updated every year using the results of the FIES in the previous year, etc.

#### 4 Revision of items

The items used for calculating the CPI are added or removed according to the importance and other criteria in living expenditures for improving the accuracy of measuring price changes.

The criteria to add or remove the items are shown below.

##### <Criteria for addition>

The items which meet all of the following criteria are added to the index items:

- i) Importance in living expenditures has increased due to change in the consumption patterns owing to the appearance and spread of new goods and services, and taste changes
- ii) Items that can contribute to improve accuracy and to retain representativity of subgroup indices.
- iii) Items that can be smoothly collected their prices and correctly represent their price changes.

##### <Criteria for removal>

The items which meet any of the criteria i) to iii), and are not considered to hurt the representativity of subgroup indices are removed.

- i) Items whose importance for living expenditures has decreased due to changes in the consumer patterns.
- ii) Items that even when eliminated do not affect the ability to ensure the accuracy of the subgroup indices.
- iii) Items that become difficult to collect smoothly or those where the price changes cannot be clearly shown.

The items in ii) may be integrated to other items.

In the 2015-base revision, 33 items were added, 32 items were removed, and 8 items were integrated into 4 items, resulting total of 585 items in the new base index. Appendix 1 lists the items to be revised in the 2015-base index.

The name of an item may be changed to expand the concept of the item in order to improve the correspondence of the items used in the CPI to their weights and survey specifications. For example, “Music download service fees” in 2010-base is changed to “Charges for web content” in the 2015-base index to include video distribution, mobile software (application) distribution and digital books in addition to music distribution. Additionally, the name of items is revised by referring to the indication in the classification of the FIES. Appendix 2 shows the major items whose name is changed in the 2015-base index.

#### 5 Revision of model formulas

Some items such as “Airplane fares”, “Electricity” and “Telephone charges (mobile phone)” have various fare structures, with prices that vary according to the purchased conditions. To suitably reflect the price fluctuation in the price index, monthly indices for these items are

calculated with special formulas (“model formulas”) which are designed by using a typical utilization case of each item as a model. Various statistics, information consolidated by economic associations, and responses for information requests to private companies are used to compute ratios, etc. to aggregate the prices.

Of the 74 model items in 2010-base, 10 items are removed, two items are integrated to one item, and 11 items are added, making a total of 74 model items in the 2015-base.

In the 2015-base revision, the weights used for weighted averages in the model formula are updated, collecting prices and model cases are also revised and other necessary revisions are made for maintaining and improving accuracy. In addition, model formulas for newly added model items are created.

## 6 Increases and refinement of published groupings

The published groupings have been increased or refined in the base revision to ensure the validity of the consumer price index.

In the indices by household groups, the index of households headed by retired individuals aged over 60 has been published from the 2010-base, and the index of households headed by retired individuals aged over 65 is added in 2015-base in order to adapt to changes in the demographic structure in Japan.

Considering the recent increased use of the index by the chain-linking method in Japan and abroad, monthly indices for all items including fresh food, etc. are newly added and published in 2015-base as the indices calculated by the chain-linking method. At the same time, the contributions of groups and items by chain-linking method is calculated and published as reference indices to improve the validity of indices by chain-linking method.

In addition, the indices rounded off to three decimal places are disclosed as reference values to improve the availability of CPI users.

Taking into account the status of utilization and other factors, half-yearly indices for the basic groups and goods and services groups, indices by occupations of the household head, and the CPI by the midpoint-year basket method are not to be published from 2015-base, provided that these indices are continued to be analyzed for verifying the accuracy of CPI and other purposes.

## 7 Basic policy of index calculation

### (1) Regular revision of survey specifications

For those goods and services which are subject to price survey, the characteristics (specifications) including the function, standards, capacity and specification of the hot-selling line of products, are defined for each item to ensure the homogeneity and the representativity of price fluctuations. Given constant changes in corporate strategies and consumption behaviors of households, and consequent changes in the hot-selling line of products, however, the survey specifications need to be regularly reviewed and appropriately and timely revised as required (specification revision).

(2) Suitable method of quality adjustment

Given that the fixed quality is essential for measuring price fluctuations, the most suitable method is selected for appropriate quality adjustment of each item at the time of specification revision, including the overlap method, adjustment by the ratio of quantity, adjustment by the single regression equation, option cost method, class mean imputation, hedonic approach and direct comparison, to remove the effect of quality changes due to specification revisions.

(3) Utilization of POS and Internet information

The POS information\* is used for computing indices in the hedonic approach, quality adjustment at the time of specification revision, and specification management. The Internet information is used for referring to the price of goods sold on the Internet or by mail and nationally uniform prices required for computing indices.

\*POS information: scanner data gathered by the private Point of Sale system.

(4) Any time revision of model formulas

The model formula is revised as required to reflect the actual status of the new charging or price system of an item, if any, accurately in the relevant index.

(5) Midpoint-year revision of items

The index items may be added or removed before the next base revision to immediately reflect the rapid spread or decline of relevant goods and services, if any in the index.

## Index items revised in 2015 base

Added items (33) and removed items (32)

10 major groups	Addition	Removal
Food	“Shiranui”, citrus fruits(*1) “Tsuyu”, liquid seasonings Roll cakes Sushi (box lunch)-B(*2)[Inarizushi] Box lunch –B(*3)[Fried chicken box lunch] Processed pizza Roast pork Coffee beverages-B (*4) [self-service in convenience stores] Soy milk “Soba”, Japanese noodles (eating out) Ginger pork set meals (eating out) Coffee (eating out)-B (*5) [Coffee at cafes (self-service)] “Yakitori”, grilled chicken (eating out)	Flounder Liver “Azuki”, red beans Lemons Iyo-mandarins Chicken & eggs on rice Lunch for children
Housing	Carports External wall coating Parking lot construction Wallpaper reupholstering	Paint Locks Plastering Sheet glass replacement Installing air conditioner
Furniture & household utensils	Air cleaners Canteens Clothes drying hangers Septic tank cleaning fees	Electric pots Electric irons Electric carpets Coffee cups & saucers Glasses Wine glasses Vinyl hose Clean water equipment Charges for treatment of human waste
Medical care	Health fortification-B (*6)[Green juice] Masks Hearing aids Supporters	Bathroom scales Thermometers
Transportation & communication	Bicycles-B (*7) [Electric-power assisted bicycles] Road services	Car wax Electronic Toll Collection system tool
Culture & recreation	Scissors Athletic shoes Pet toilet supplies Potted plants	Marking pens Papers for office automation Cellophane adhesive tape Pencil cases Flowerpots Tennis court charges Admission fees to the racecourse
Miscellaneous	Toilet lotion-A (*8)[Counseling toilet goods] Home security services	

- (\*1) “Shiranui” is a citrus fruit.
- (\*2) The conventional “Nigirizushi” (hand-rolled sushi) is changed to “Sushi (box lunch)-A”, and “Inarizushi” (sushi in fried tofu) is added.
- (\*3) The conventional “Makunouchi box lunch” is changed to “Box lunch -A” and “Fried chicken box lunch” is added.
- (\*4) The conventional “Coffee beverages (bottled)” is changed to “Coffee beverages-A” and “Coffee beverages (self-service in convenience stores)” is added.
- (\*5) The conventional “Coffee at cafes (excluding self-service and coffee stands)” is changed to “Coffee (eating out)-A”, and “Coffee at cafes (self-service)” is added.
- (\*6) The conventional “Multi-vitamin” is changed to “Health fortification-A” and “Green juice” is added.
- (\*7) The conventional “City bicycles” is changed to “Bicycles-A” and “Electric-power assisted bicycles” is added.
- (\*8) The conventional “Toilet lotion (self toilet goods)” is changed to “Toilet lotion-B” and “Toilet lotion (counseling toilet goods)” is added.

Integrated items (8 items to 4 items)

10 major groups	2010-base	2015-base
Food	Fermented lactic drinks, sterilized (“Calpis”)	Fermented lactic drinks
	Fermented lactic drinks, unsterilized (“Yakult”)	
	School lunch (elementary school, lower grades)	School lunch (elementary school)
	School lunch (elementary school, higher grades)	
Transportation & communication	Automobiles (more than 660cc, but less than 1,500cc)	Small motor vehicles (over 0.66L, 2.00L or less)-A
	Automobiles (more than 1,500cc, but less than 2,000cc)	
Miscellaneous	Charges for certificates of registered stamps	Charges for administrative certificates
	Charges for certificates of permanent registration	

Changes in survey area (one item)

10 major groups	Item	2010-base	2015-base
Food	“Nigauri”	Okinawa Pref. only	Japan

## Major items subject to name change in 2015 base

10 major groups	2010-base	2015-base
Food	Instant noodles	Instant noodles in cups
	Uncooked Chinese noodles	Chinese noodles
	Canned sweet corn	Canned vegetables
	Liquid seasonings	“Tare”, liquid seasonings
	Chinese seasonings	Mixed seasoning
	Fried food	Pork cutlet set meals (eating out)
Housing	Board	Materials for repairs & maintenance
	“Tatami” reupholstering	“Tatami” reupholstering
	Fire insurance premium	Fire & earthquake insurance premium
Furniture & household utensils	Rice bowls	Bowls
	Scrubbing brushes	Scrubbing sponges
	Fluorescent lamps	Electric bulbs & lamps
Medical care	Supplements	Health fortification-A
	Bath preparation	Bath additives
Culture & recreation	Dry batteries	Batteries
Miscellaneous	Music download service fees	Charges for web content
	Hair dyeing	Hair color
	Men’s umbrellas	Umbrellas

In addition to the above, the names of the following items are revised:

- a) Items relating to the revision of the national list of Chinese characters in common use.
- b) Items classified as “A” or “B”.
- c) Surveyed items classified as domestic and imported.
- d) Eating out items noted as “(eating out).”
- e) Items in clothing, etc. for which the classification in FIES is used.