



## **SEMINAR**

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### **5. Recent Methodological Developments of the CPI in Japan**

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# Recent Methodological Developments of the CPI in Japan

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## Abstract

The CPI in Japan aims to measure the average price change in purchases of goods and services by households throughout the country. The compilation of the CPI began in 1946. For computation of the CPI, prices are obtained mainly from the Retail Price Survey, and weights mainly from the Family Income and Expenditure Survey. The weights are based on consumer expenditures in the base year which has been renewed every five years since 1955. Now both the base period and the reference period for weights are 2000.

During recent ten years, the CPI methodologies have been improved mainly through the following four activities.

Firstly, as it is difficult to collect prices of products with an equivalent quality continuously because of rapid quality changes, for personal computers, newly included in the 2000 revision, average price and number of units sold for each product derived from scanner data, collected from major electric appliance shops across the country are used for compiling price indices instead of the RPS. Hedonic method is applied to compile price indices for them. For digital cameras, the price movement is also calculated in the same method.

Secondly, though the official CPI is based on the basket of all households with two or more persons, as the number of one-person households increases recently, the index based on the basket of total households including one-person households is also compiled annually from the 2000 revision for reference.

Thirdly, in order to analyze effects of changing consumption pattern on the CPI, a chained Laspeyres index; a year-to-year chaining of Laspeyres index based on the preceding year is compiled for reference. To meet requests for a month-to-month chaining index, methodologies to chain indices monthly with yearly weights are now under consideration.

Lastly, a data collection system was introduced to the RPS. In the system, retail prices are collected by using mobile devices instead of traditional questionnaire sheets, several databases with various management information regarding survey shops and items is equipped, and data are transmitted among enumerators, prefectures and the Statistics Bureau through a telecommunication network. When prices are key-entered into the mobile devices, their validity can be examined by comparing with prices of the previous month, the most up-to-date brand names can be displayed, confirmed and selected in the inventories, and a board of notifications and instructions can be given to the enumerators.

Subjects in future are development of quality adjustment methodologies, collecting rents and related information from the supply side, release of a preliminary CPI for the whole country as well as preparation of the 2005 revision.

## I Outlines of the CPI in Japan

### Characteristics

The Consumer Price Index in Japan is calculated to measure the average price movements of goods and services purchased by households throughout the country. It reflects changes of the cost of purchasing goods and services in a fixed “market basket”, but is not designed to measure changes of the cost of living attributed to changes in the consumption structure of households.

The CPI is a significant indicator to promote economic and financial policies adequately, used for deflators of the GDP and revisions of public charges and rents as well as pensions. However, the relationship between the government’s budget and the CPI is not so close since most items of revenue in the budget are not connected with the CPI in the form of written laws or regulations except for specific items such as charges for postal services, while they are influenced indirectly by the CPI. As for expenditures in the budget the CPI has connections with pensions and benefits for children, but has little to do with medical insurance benefits, benefits for the elderly, or those receiving social welfare.

### History

The compilation of the CPI began in 1946. To cope with the existence of dual price channels, official and black market, the index was computed by using the “effective prices” (average prices weighted according to the quantity of goods purchased at official prices and that of goods purchased at black market prices), and weights which were based on the Consumer Price Survey<sup>1</sup>.

Since 1950 prices have been gained, in principle, from the Retail Price Survey (RPS)<sup>2</sup> (the Designated Statistics No.35 based on the Statistics Law) and weights have been calculated from results of the Family Income and Expenditure Survey (FIES)<sup>3</sup> (the Designated Statistics No.56). Items and weights have been revised every five years since 1955.

### Items

Items are selected in consideration of their relative importance of expenditures, representing typical price movements in the upper group and feasibility of price data collection, in order to represent the price movements of all the goods and services purchased by households. Relative importance of expenditures are evaluated with the standard that expenditures are more than one ten-thousandth to the total living

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<sup>1</sup> The Consumer Price Survey was the survey to collect the expenditures and amounts of purchases item by item, as well as the purchase prices monthly but lacked the data on incomes, and provided the outflow of money in the household economy.

<sup>2</sup> The Retail Price Survey is the survey to get the nation-wide information on retail prices of goods and services and house rents monthly, thereby to provide basic data for the CPI and other economic statistics.

<sup>3</sup> The Family Income and Expenditure Survey is the survey to provide comprehensive data on incomes and expenditures of consumers and other related information. About 9,000 households are requested to keep daily accounts of all the transactions both in money and in kind in the household economy. The account books are monthly collected, and are summarized into the form of tables for the monthly publication.

expenditures.

## Prices

For computation of the CPI, prices are normal retail prices or service charges at which the items are actually sold at the outlets or establishments, obtained mainly from the RPS of 598 items in about 30,000 outlets in 167 municipalities. About 230,000 prices including 22,000 house rents and floor spaces are collected every month through the survey. Accommodation charges per night at around 530 hotels including Japanese-style inns in 101 municipalities are surveyed as well. Excluded from the price collection are temporary bargain prices<sup>4</sup>, abnormal prices due to disasters, prices for installment sales, prices of second-hand articles. To reflect the actual price changes to the indices as accurately as possible, the indices of 56 items concerning charges such as electricity, taxi fares and cigarettes are calculated by using models.

Shops are selected, in principle, by following the arrangements in accordance with sales for each item by Price Survey Districts in survey municipalities of the RPS. Thus, volume sales specialty stores, drug stores and discount stores can be selected if their sales are comparatively large for an item in a Price Survey District. Shops for the survey are reviewed timely on the basis of sales by items.

The whole area of each city, town and village for the survey is divided into the same number of Price Survey Districts as those of prices for a item in the group A<sup>5</sup>, consolidating districts of the Establishment and Enterprise Census<sup>6</sup>, referring to distribution of densely commercial districts along geographical features. Besides, all households living in rented houses or rooms in Rent Survey Districts are investigated.

In principle, prices for items in the group A are surveyed in all Price Survey Districts, while those for the Group B<sup>7</sup> and C<sup>8</sup> are surveyed in Price Survey Districts where representative stores of the items exist. The total number of Price Survey Districts is 679 in June 2005.

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<sup>4</sup> Bargain prices as well as normal prices are surveyed through the National Survey of Prices (the Designated Statistics No.108) which has been implemented every five years, aims to study the actual conditions of the price differentials among outlets, brands, regions, etc. by widely surveying prices of goods and services which are important objects of consumer spending, as well as the factors that influence price decisions including types and locations of outlets, and surveyed approximately 2,585,000 prices at about 192 thousand stores in 636 municipalities in 2002. Changes during five years are similar between the both prices for items with equal specifications during the period from results of the 1997 and 2002 National Survey of Prices.

<sup>5</sup> Group A are items which consumers purchase mainly at their neighboring areas, and the prices differ among areas, such as fish, vegetables and daily sundries.

<sup>6</sup> The Establishment and Enterprise Census (the Designated Statistics No.2) provides basic data to clarify the current situation of establishments and enterprises in Japan. About 30 establishments exist in a district of the survey.

<sup>7</sup> Group B are items which are usually sold at midtown shopping areas, and the prices differ among outlets, such as clothing, furniture and electric appliances.

<sup>8</sup> Group C are items whose price differences are small among areas and outlets, such as seasoning and stationary.

Prices and rents are surveyed, in principle, once a month on Wednesday, Thursday or Friday of the week<sup>9</sup> including the 12th of each month. As for fresh fish & shellfish, fresh vegetables, fresh fruits and cut flowers, price data are collected three times a month; Wednesday, Thursday or Friday of the week including the 5th, 12th or 22nd of each month. The middle prices during the three consecutive days ending on the survey dates are selected each time.

### **Specifications**

For each item surveyed, the exact description of the relevant goods and services (basic specifications) is detailed with such characteristics as brand, size, quality, etc. so that the equivalent goods and services can be constantly priced every month. In case a product of a basic specification is no longer commonly found in the market and does not represent the price of the item, a new representative specification replaces the old specification (specification change).

For this purpose, specifications are reviewed continuously, and if not available enough or losing popularity in the market, such specifications are replaced with more representative ones, in principle, twice a year on the basis of not only market information assembled directly by the Statistics Bureau, but also market research carried out through prefectures four times a year about items whose popularity in the market are not apparent from general information. In addition, to cope with rapid changes of the commodities, if popularity of products with the specifications is supposed to be lost by stopping manufacturing them or appearance of new popular products, specifications are changed timely. As a result, the prices of specification representing each item are followed.

### **Weights**

Weights are calculated on the basis of household expenditures of the FIES for about 8,000 multi-person households, and are based on consumer expenditures in the base year which has been renewed every five years since 1955. Now both the base period and the reference period for weights are 2000. As the CPI is designed to measure changes in prices of goods and services consumed by households throughout the country, the scope of the FIES items used for the calculation of weights is limited to the household consumption expenditures. So, the CPI does not cover non-consumption expenditures (such as income taxes and social security payments) nor outgoings other than expenditures (such as savings including deposits, security purchases, and property purchases). Furthermore, among the consumption expenditures, remittances, money gifts, religious contributions (donations and offerings to temples, churches and offertory) and obligation fees (fees paid to neighborhood association, alumni and union due) are also excluded because no market exists, the relationship between costs and benefits is not clear, or they are income transfer among households.

The shelter service provided by owner-occupied houses is incorporated in the index through the imputed

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<sup>9</sup> Prices on weekends as well as on weekdays are surveyed through the National Survey of Prices. Changes during five years are similar between the both prices for items with equal specifications during the period from results of the 1997 and 2002 National Survey of Prices.

rent approach.

First, equations are estimated to represent the relationship between rents and other dwelling characteristics for private rented houses with the Housing and Land Survey<sup>10</sup>. The formula on the 2000 basis is in the followings;

$$\ln y_{ik} = a_i + \sum_j b_{ij} x_{jk} + c_i \ln S_{ik}$$

In this equation,  $i$  is one of four area districts (Tokyo, three prefectures around Tokyo, three prefectures including Osaka, and other 40 prefectures),  $y_{ik}$  is a rent,  $x_{jk}$  is a dummy variable representing a dwelling characteristic,  $S_{ik}$  is a floor space, and  $a_i$ ,  $b_{ij}$  and  $c_i$  are coefficients.

Then, data of owner-occupied houses for the 1999 National Survey of Family Income and Expenditure (NSFIE)<sup>11</sup> are substituted for dwelling characteristics in the equation to estimate imputed rents. As the above imputed rents are estimated from relationship of private rented houses, they include cost to repairs & maintenance and land rent corresponding to items in the FIES. So, they are deducted to avoid conceptual duplication and to get weight for imputed rent of adequate level based on the FIES.

At the end, this amount is adjusted to the level for all households in the FIES at the base year by using ratio of living expenditures in the FIES per those in the NSFIE, changing ratio of the CPI for imputed rent based on the previous bases and ratio of owner-occupied households to all households in the 1998 Housing and Land Survey.

### Calculation

Generally, prices are averaged for each municipality every month. Average prices in the base period and in the observation period for each item are calculated, in principle, as simple arithmetic means of collecting prices. As for prices of fresh food and cut flowers collected three times a month, the average prices, which are calculated as simple arithmetic means of those middle prices for each time, are then aggregated into the monthly average prices on the basis of the simple arithmetic mean of the average prices.

Price relative (price in the observation month per price in the base year) is calculated and then averaged

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<sup>10</sup> The Housing and Land Survey (the Designated Statistics No.14) has been implemented every five years and is the most fundamental statistical survey on housing conditions for the purpose of obtaining basic data for various housing policy measures by investigating the actual situations of dwellings and other occupied buildings and the inhabiting households thereof in our country to clarify the present circumstances and trends for the whole country, major metropolitan areas, and prefectures.

<sup>11</sup> The National Survey of Family Income and Expenditure (the Designated Statistics No.97) has been conducted every five years for the purpose of not only investigating family incomes and expenditures, status of the dwelling house and land owned, major durable goods possessed and the total amount of savings and liabilities, thus identifying overall family budget structure from the point of view of incomes, consumption and assets, but also revealing regional differences of the family budget structure.

with the respective weight<sup>12</sup> for each municipality to obtain the average price relative by item for regions or the whole country.

Indices for groups as well as the general index are calculated with the Laspeyres formula through aggregation with price relatives and weights for items.

The annual average indices for all items other than fresh food, sub-indices and the general index are calculated as simple averages of monthly indices from January to December, while for fresh food whose quantities apt to change monthly, annual indices are calculated as weighted arithmetic means by using monthly weights which were made by expenditures in 2000 and monthly quantities in 1999 and 2000. Quarterly and semi-annual indices are also calculated in the same way.

In order to analyze effects of changing consumption pattern on the CPI, chained Laspeyres index, year-to-year chaining of Laspeyres indices based on the preceding year, is compiled for reference. In addition, another index using a formula named “midpoint-year basket method” is compiled based on the basket in the middle year between the weight reference year and the observation year from the 2000 revision for reference.

### **Quality adjustment**

The CPI is compiled to measure “ pure price change ” unaffected by changes in quality of goods and services purchased by households. In the case of a specification change, difference in prices of the new specification needs to be adjusted in order to exclude price difference that is attributable to quality difference between the old specification and the new specification. Methods of quality adjustment changes are the overlap, quantity ratio, regression, option cost, imputation and direct comparison. The main method to adjust quality change in the index calculation is the overlap method. Both prices of the old and new specifications can be gained simultaneously since specifications are changed in the whole country before the survey under directions of the Statistics Bureau.

### **Publication**

The monthly consumer price index is released, in principle, at 8:30 A.M. on Friday of the week including the 26th of each month. The index figures of the preceding month for the whole country, and the preliminary figures of the current month for Ku-area of Tokyo are released. The average index figures for the calendar year and the fiscal year are released when the monthly figures for December and March are released respectively.

The CPI is one of the key indicators of current economic conditions, and is reported monthly at the Cabinet Meeting.

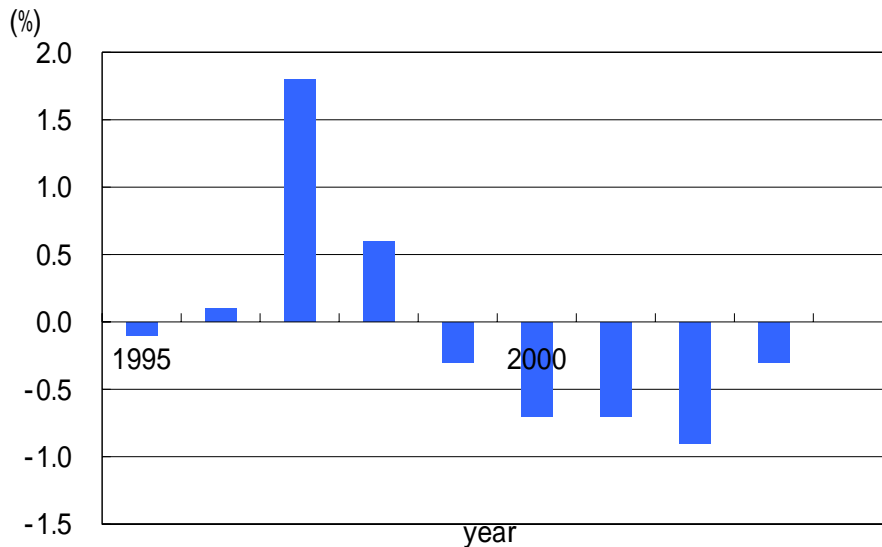
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<sup>12</sup> The respective weight is in proportion to the number of multi-person households.

**Recent results**

Changing ratio of the CPI from the previous year became a trend of decline in Japan after 1970's, and has dropped below zero since 1999. But the size of the ratio has shrunk since 2002. (Figure) The ratio in 2004 was 0.0% mainly caused by price hikes of fresh vegetables by the bad weather from October to December. Changes from the previous year of the general index excluding fresh food have not risen above zero for the past 84 months since May 1998 except for one month. Recent main reasons of their declines are telephone charges and electricity as well as rice whose production in the last year were better than the previous year due to climate condition.

**Figure Changes from the Previous Year of the CPI during Recent Ten Years in Japan**



**II Improvement of the CPI Methodology during Recent Ten Years**

During recent ten years, the CPI methodologies have been improved mainly through the following activities.

**1 Using Scanner Data**

As it is difficult to collect prices of products with an equivalent quality continuously because of rapid quality changes, for two items “Personal computers (desktop)” and “Personal computers (notes)”, newly included in the 2000 revision, average price and number of units sold for each product derived from scanner data, collected from major electric appliance shops across the country are used for compiling price indices instead of the RPS. Hedonic method is applied to compile price indices for the two items. Their influence to total CPI is limited since share of weight for either desktop or notes is only 0.22% in the 2000 basis.

For “Digital cameras”, which composes “Cameras” item index from 2003, the price movement is calculated in the same method. The weight for Cameras is only 0.07% including analog cameras.

Hedonic formula is in the followings;

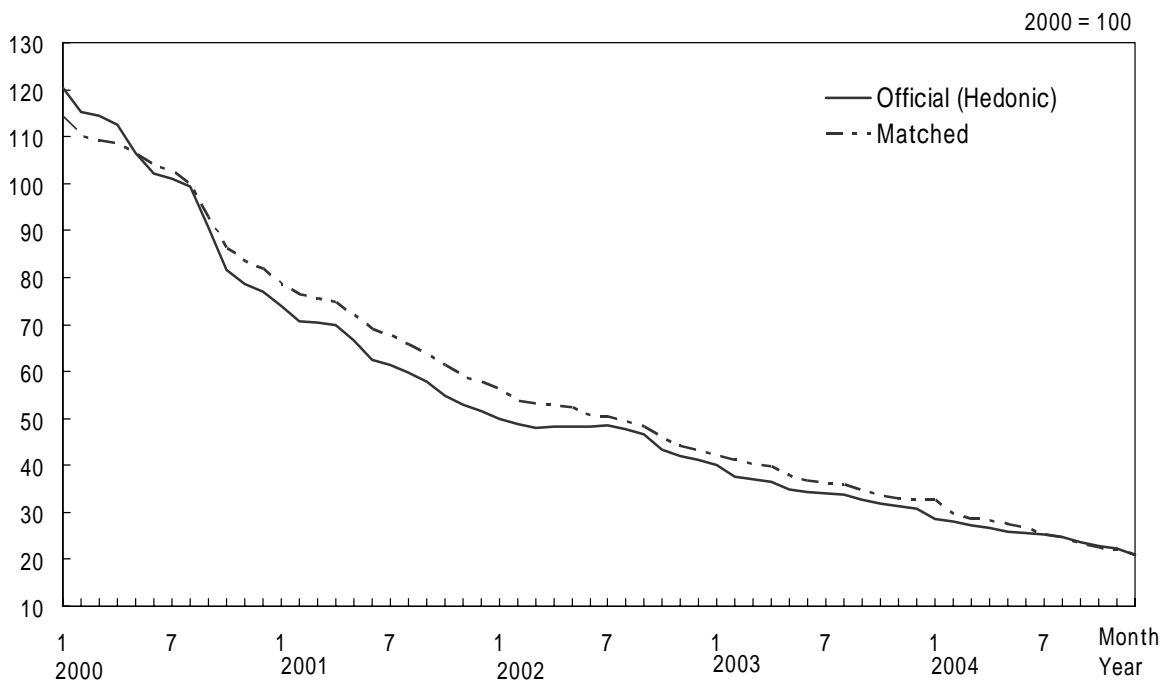
$$\ln p_{ij} = \alpha_i + \beta_t d_i + \sum_k \gamma_{ik} x_{ik} + \varepsilon_i$$

In this equation,  $p_{ij}$  is a price,  $j$  is time ( $j = t, t + 1$ ),  $i$  is a product,  $\alpha_i, \beta_t, \gamma_{ik}$  are partial regression coefficients,  $x_{ik}$  is a characteristic,  $\varepsilon_i$  is a residual, and  $d_i$  is a time dummy equals 0 if  $j = t$  and 1 if  $j = t + 1$ . The index for the equation is calculated as the followings;

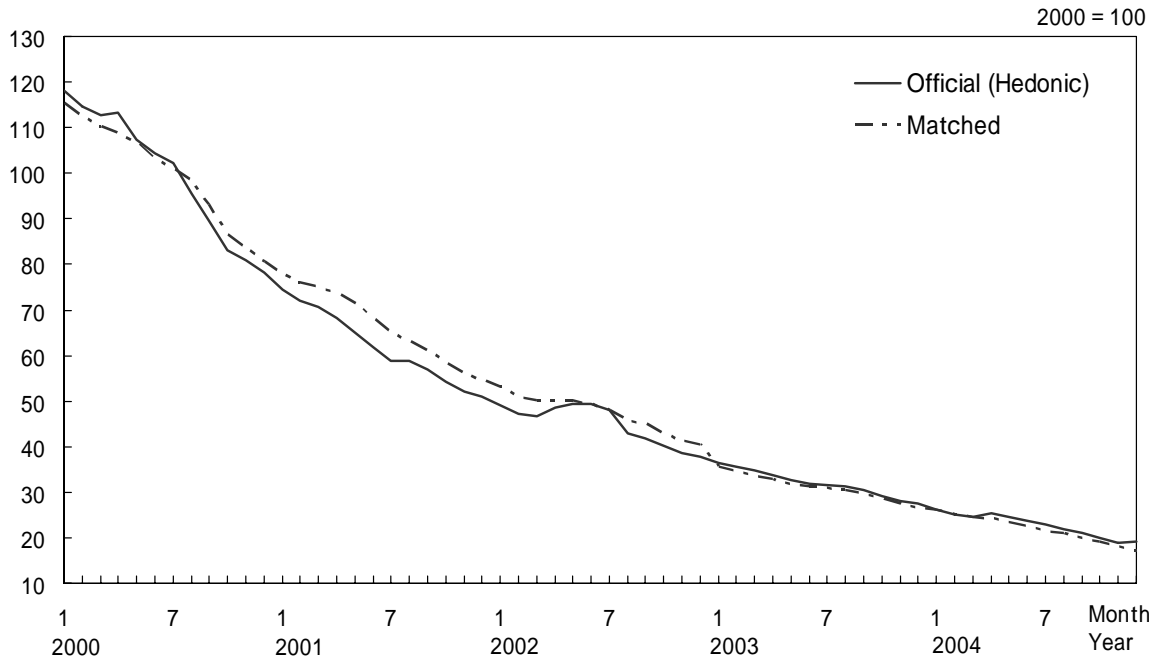
$$I = 100 \times \prod_t \exp \beta_t$$

Their movements are checked by comparing with results through other quality adjustment methods including matched methods; chained Fisher type index calculated with prices and units sold for each product existing in both the previous month and the current month, and the index calculated by the geometric mean of average price changes per product by the RPS during the observation period; the period existing as a new model in the market from January 2003 to January 2005, excluding products whose initial data is single. All of their movements are similar as shown in Figure 1-1, Figure 1-2 and Table 1.

**Figure 1-1 Price Indices for PCs (Desktop)**



**Figure 1-2 Price Indices for PCs (Notes)**



**Table 1 Price Changes of PCs (Notes) for Recent Two Years**

	Jan. 2003	Jan. 2005
Official (Hedonic)	100.0	50.1
Matched	100.0	46.2
Retail Price Survey	100.0	48.9

From results of these comparisons, hedonic index using scanner data can approximate price changes for personal computers.

**2 Including One-person Households**

The official CPI is based on the basket of all households with two or more persons. As the number of one-person households has been increasing recently, the index based on the basket of total households including one-person households is also compiled annually from the 2000 revision for reference. In the background of this, expenditures for one-person households have been surveyed by the Income and Expenditure Survey for One-person Household<sup>13</sup> from 1995 to 2001 and by the FIES from 2002. Shares of expenditures are similar between one-person and multi-person households for most items, but shares of expenditures in one-person households tend to be greater for items such as housing and reading & recreation, whereas in multi-person households a large share of expenditures is allocated to items for children such as education. (Table 2-1)

<sup>13</sup> The Income and Expenditure Survey for One-person Household was a monthly sample survey to provide comprehensive data on incomes and expenditures for all one-person households other than students, which was included by the FIES in 2002.

**Table 2-1 Expenditures by Ten Major Groups in 2004 from the FIES**

	Expenditure (thousand yen)		Share (%)		Differences
	Multi	One	Multi	One	
Living Expenditure	3,636	2,092	100.0	100.0	0.0
Food	915	541	25.2	25.9	-0.7
Housing	231	295	6.3	14.1	-7.7
Fuel, light & water charges	252	116	6.9	5.5	1.4
Furniture & household utensils	125	52	3.4	2.5	0.9
Clothes & footwear	172	109	4.7	5.2	-0.5
Medical care	148	73	4.1	3.5	0.6
Transportation & communication	470	263	12.9	12.6	0.3
Education	159	0	4.4	0.0	4.4
Reading & recreation	389	285	10.7	13.6	-2.9
Other living expenditure	776	359	21.3	17.1	4.2

The official index for general is only 0.1 point larger than the index for total households in 2004. But for recreational durables the official index is 2.7 point larger than the index for total households. (Table 2-2) In these ways, the effects to the CPI by one-person households are various among items.

**Table 2-2 Differences between Official Indices and Indices for Total Households in 2004 (2000=100)**

	Official indices	Indices for total household	Differences
General	98.1	98.0	0.1
Reading & recreation	92.2	91.8	0.4
Recreational durables	50.4	47.7	2.7
Recreational goods	93.3	93.4	-0.1
Books and other reading materials	101.0	101.0	0.0
Recreational services	97.6	97.6	0.0

In order to compile the index for total households monthly, quantities for one-person households which cannot be gained through the FIES<sup>14</sup> are necessary every month for the purpose of calculation of weights for items in fresh food. So, methodologies to estimate monthly weights for one-person households are now under consideration.

In these ways, methodological issues exist in the compilation of monthly weights for fresh food. However, for items which are items in the FIES as well in fresh food the ratios of share of quarterly expenditures divided by share of annual expenditures to the upper groups (fresh fish & shellfish, fresh vegetables or fresh fruits) are similar between one-person households and multi-person households in 2004, calculated

<sup>14</sup> The FIES are surveyed every month not only for multi-person households but also one-person households, however, to the latter lack inquiries about quantities from the standpoint of reducing burdens and are compiled quarterly to ensure stabilities of their results under small size of samples.

from results of the FIES. These differences are less than 0.5<sup>15</sup>. So, monthly share of expenditures to upper groups in fresh food for one-person households can be estimated from one for multi-person households to some extent.

### 3 Releasing Chained Indices

Changing consumption pattern is not large since difference between the official CPI and the year-to-year chaining of Laspeyres index based on the preceding year is only 0.3 in 2004 based on the 2000 bases. In the past, absolute values of differences between the official index and the chained index are less than 0.4 in the next base year, five years later after the current base year. (Table 3)

**Table 3 Differences between Official Indices and Chained Indices**

Base Year	Observation Year	Official Indices	Chained Indices	Differences
1975	1980	137.2	137.0	0.2
1980	1985	114.4	114.1	0.3
1985	1990	106.9	106.6	0.3
1990	1995	107.0	107.1	-0.1
1995	2000	101.5	101.4	0.1
2000	2004	98.1	97.8	0.3

Note: Indices before 1985 exclude imputed rent.

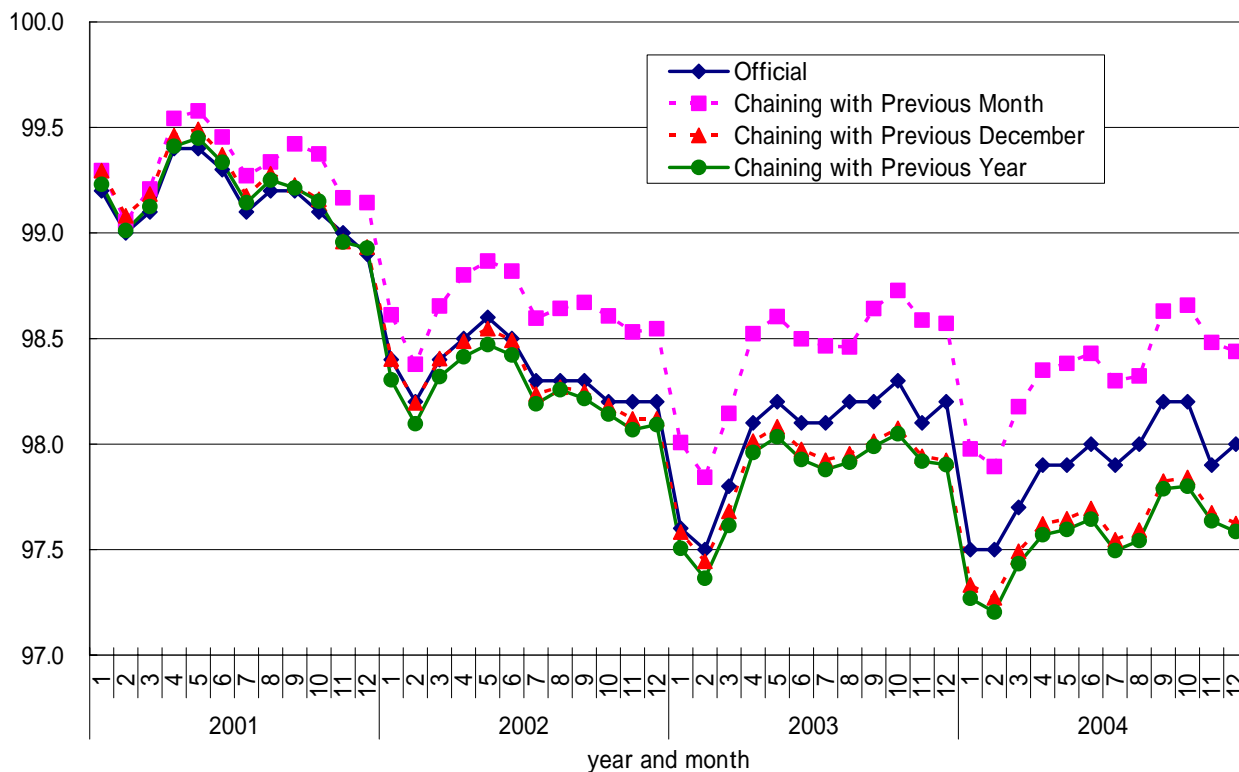
Even so, to meet wishes for release of a month-to-month chaining index, methodologies to chain indices monthly with yearly weights are now under consideration. In the concrete, three kinds of month to month chaining index; one with the index in the previous month, one with the index in the previous December and one with the averaged index in the previous year have been compared from the standpoint of level, stability, and consistency with other indices of the CPI.

The month to month chaining index with the index in the previous month for general excluding fresh food has moved above the official index with 0.4 point difference in December 2004, but has shown drift especially for clothes & footwear. (Figure 3-1, Figure 3-2) The other two indices for general excluding fresh food have moved similarly below the official index with 0.4 point difference in December 2004. They decrease widely than the official index for reading & recreation whose expenditures are decreasing according to their prices down. (Figure 3-3) The chaining index with the averaged index in the previous year can be also compiled for fresh food with monthly weights<sup>16</sup> and corresponds to the year-to-year chaining index which has been released, if averaged in a year.

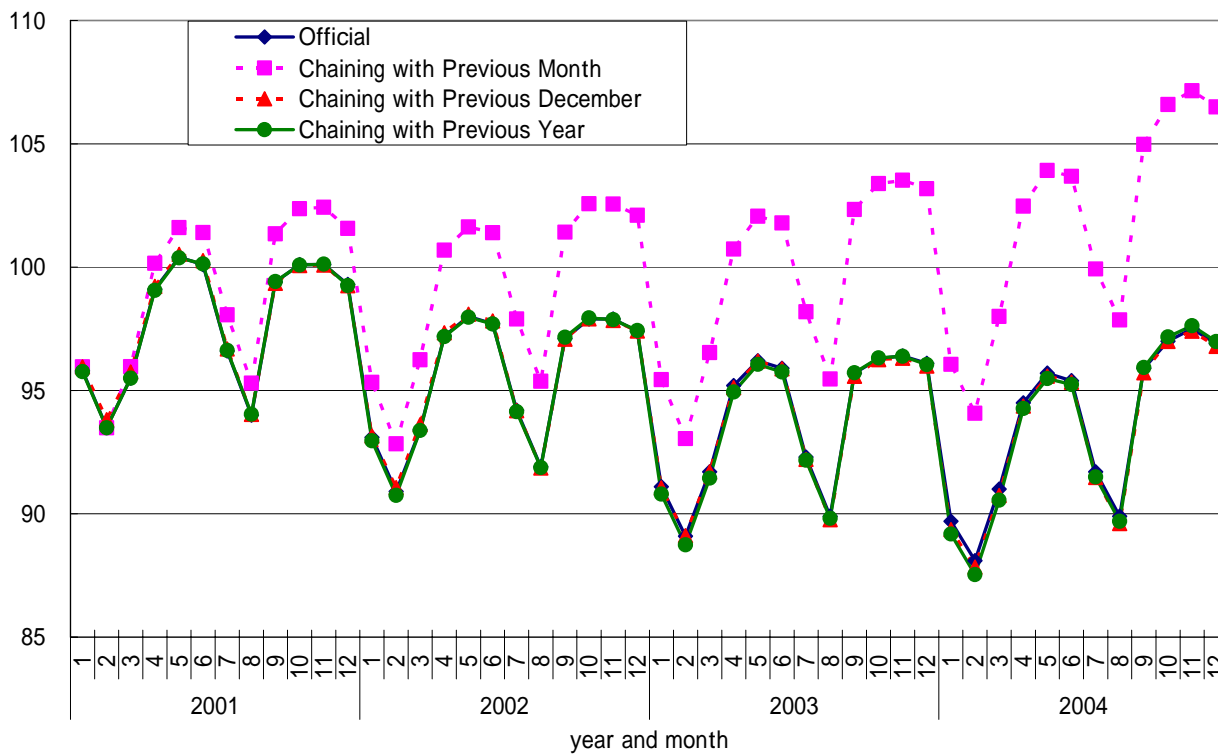
<sup>15</sup> The largest difference is 0.4 for grapes from July to September in 2004. Differences are less than 0.4 for all other items.

<sup>16</sup> The other two indices chaining with the index in a month cannot be compiled for fresh food through common methodologies since weights for items in fresh food are different among months including vacant values.

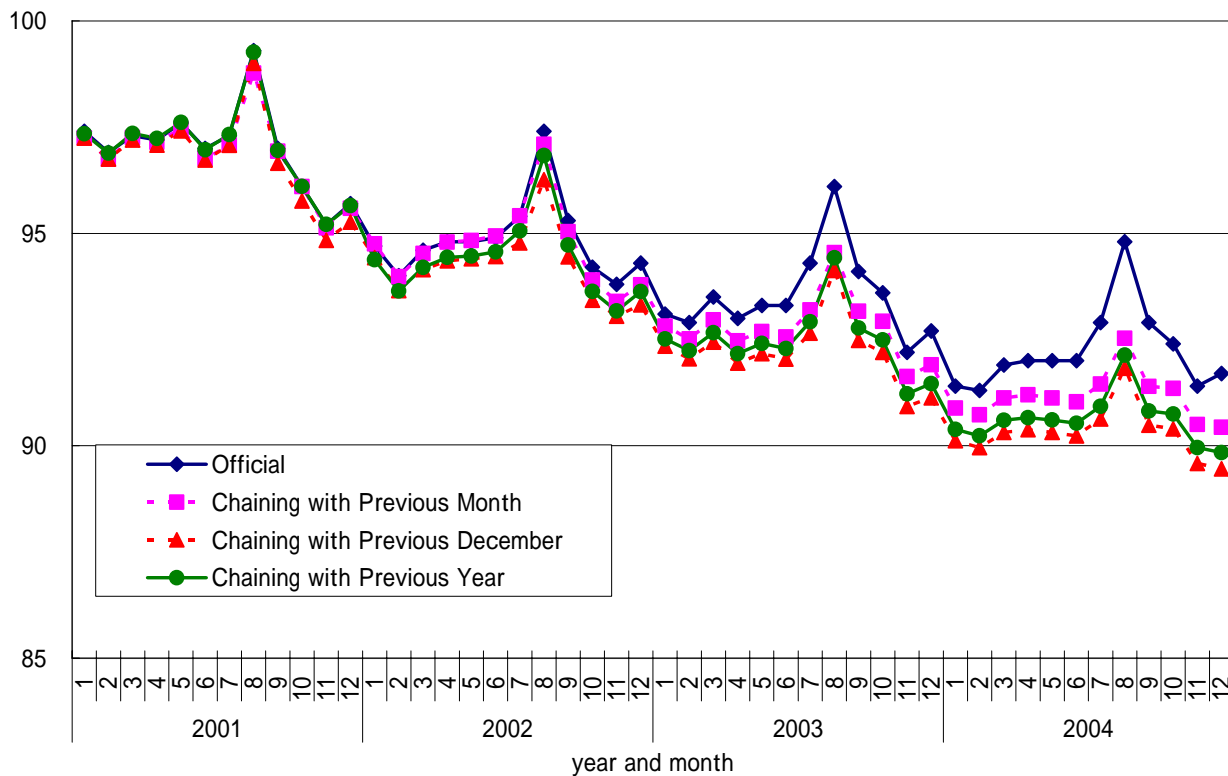
**Figure 3-1 Chaining Indices for General Excluding Fresh Food**



**Figure 3-2 Chaining Indices for Clothes & Footwear**



**Figure 3-3 Chaining Indices for Reading & Recreation**

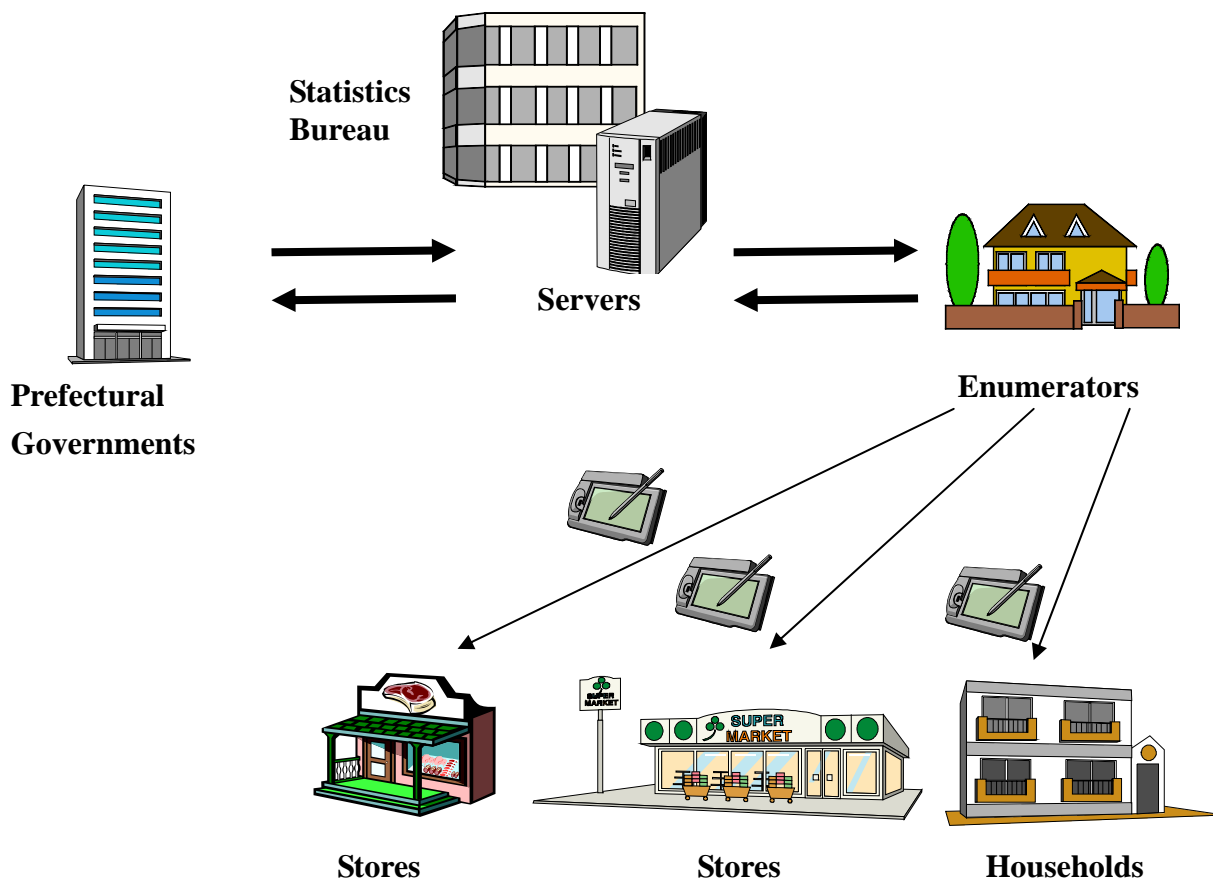


In the end, the month to month index chaining with index in a designated month or the average in the previous year can express price changes based on changing consumption pattern as a practical index released within short period after data collection under the present resources.

#### 4 Introducing a Data Collection System with Mobile Devices

A data collection system was introduced to the RPS in July 2003. In the system, retail prices are collected by using mobile devices, Personal Digital Assistance, instead of traditional questionnaire sheets, several databases with various management information regarding survey shops and items are equipped, and data are transmitted among enumerators, prefectures and the Statistics Bureau through a telecommunication network. Enumerators receive necessary data for price collection at home from servers of the Statistics Bureau by connecting PDA to a telecommunication network. The data received in this stage include prices for the previous month, item specifications and brand names, etc. Enumerators collect prices at shops and rents at households, and input prices and associated brand names, rents, etc. into PDA. Enumerators send collected data at home to the Statistics Bureau by using PDA via a telecommunication network.

**Figure 4 Conceptual Diagram of the Data Collection System of the RPS**



Merits of the System are as the followings.

- (1) When prices are key-entered into PDA, their validity can be examined by comparing with prices for the previous month.
- (2) Automatic calculation for volume adjustment
- (3) The most up-to-date brand names can be displayed, confirmed and selected in the inventories provided by PDA.
- (4) The system provides a board of notifications and instructions to the enumerators. The revision of specifications for each survey municipality can be confirmed at all times.
- (5) A great amount of troublesome manual work of organization of more than 100 kinds of questionnaires required in the traditional system can be automatically controlled in the system.

### **III Subjects of the CPI in Future**

#### **Short term subjects**

The base year is supposed to be changed from the year 2000 to 2005 in the 2005 revision which will be released in August 2006. The CPI will have been improved through changes of items and calculation of their weights on the bases of consumption pattern, appearance of new products and services and price diversification by deregulation, technological breakthrough, global competition, etc.

In order to reflect user's requests, comments were assembled from the public about the basic policy of the 2005 revision and answers to them were released for the first time in history.

Also, it is considered that, to meet various requests of users, new supplementary indices such as the monthly index for total households and the monthly chaining index mentioned above will be released, and that a new index, general excluding energy<sup>17</sup> will be included into the official indices with the 2005 revision.

Because changes over the previous year of the CPI tend to move slightly below zero; recently less than 0.5 point as absolute values, a lot of people have great concerns to the time when they will rise above zero. Some people predict that the time will come near when the first result of the 2005 revision is scheduled to be released, in August 2006. Changes over the previous year may tend downward, influenced by the revision, for instance, by expanding weights for items with larger expenditures or by newly including IT materials whose prices decrease rapidly as items in the new basket. So it is necessary to divide elements of changes into those depending on the revision and those by price-downs. Moreover, elements depending on the revision are divided into those depending on changes of weights for same items as in the former basket and those caused by changes of items. The former would be diminished to some extent but the latter would be left in the chaining index which is compiled for items in the former basket.

### **Long term subjects**

Since items and specifications of the CPI have been diversified, methodologies to capture prices of many items and specifications simultaneously and timely including newly appeared are under consideration. Also quality adjustment methodologies should be advanced especially for items in service fields such as housing, medical services, education, or whatever.

House Rents and floor spaces are surveyed every month in the RPS from the demand side, households, which apt to hesitate to report such private data due to concerns of privacy. This issue is serious since rents are used as imputed rents for owner-occupied houses with 1,360 ten-thousandth expenditures. However, individual information related to real estates such as distances from a station, age of estate, amenities in addition to rents and floor spaces can be gained from the supply side, real estate owners. So, collecting rents and related information from the supply side are under consideration.

While the preliminary figures of the current month of the CPI are released for only Ku-area of Tokyo, consumption pattern and price movements are little different in Ku-area of Tokyo, for example, consumption for gasoline are smaller, prices for housing have dropped down more rapidly, compared with in the whole country. So some users request earlier release of the national CPI. To meet such user's needs, release of a preliminary CPI for the whole country is now under consideration. But this issue is closely

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<sup>17</sup> Electricity, Gas, Liquefied propane, Kerosene, Gasoline (regular) and Gasoline (premium)

OECD Seminar, Paris, 21-22 June 2005

related with the process of the RPS performed by a lot of relating people including enumerators. Process of the survey needs to be rationalized in order to realize more speedy process. Coverage or accuracy may be lost to some extent for a preliminary new CPI.

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**Appendix 1 Hedonic Formula for PCs (Desktop) from October  
Results at November 2004**

	coefficient	t-value
$d_t$	11.53925	161.28
maker group	-0.02976	-5.53
processor: CELERON	-0.11627	-4.68
Built-in TV tuner	-0.05452	-6.68
square of display size (inch <sup>2</sup> )	0.05553	5.08
HDD (GB)	1.260E-03	16.61
CPU clock freq. (MHz)	1.010E-03	10.97
main memory (MB)	5.158E-05	7.81
none of local wave digital tuner	3.753E-04	11.51
none of DVD recorder	-0.27603	-4.18
independent TV function	-0.22342	-7.33
period after release	0.07438	8.27
3 months or longer but shorter than 6 months	-0.17434	-14.79
6 months or longer but shorter than 12 months	-0.21139	-21.66
12 months or longer	-0.35446	-13.27
number of items (total both in previous and current month)	640	
adj.R <sup>2</sup>	0.9078	

**Appendix 2 Hedonic Formula for PCs (Notes) from October  
Results at November 2004**

	coefficient	t-value
$d_t$	11.51293	375.53
maker group	-0.05276	-10.53
processor: PENTIUM M	-0.02306	-2.84
OS: Windows XP Professional	0.10491	14.07
built in TV tuner	0.19057	7.16
word processor software: WORD	0.11901	13.91
none of wireless facility	0.05973	2.92
number of spindles	-0.05802	-8.41
none of DVD recorder	0.02566	3.17
clearance of screen (dot)	-0.12076	-10.65
HDD (GB)	2.007E-07	14.04
period after release	3.720E-03	14.52
3 months or longer but shorter than 6 months	-0.11559	-14.99
6 months or longer but shorter than 12 months	-0.14001	-16.61
12 months or longer	-0.37885	-9.56
number of items (total both in previous and current month)	648	
adj.R <sup>2</sup>	0.9082	

### Appendix 3 Hedonic Formula for Digital Cameras from October Results at November 2004

	coefficient	t-value
t	9.40724	215.23
d <sub>t</sub>	-0.03698	-2.97
maker group	0.16957	8.52
optical zoom magnification	0.05022	14.08
number of frames per second	0.00737	7.30
effective pixel (10 thousand)	0.00170	22.60
lens exchange correspondence	1.48504	26.83
hand deflection compensation function	0.04263	2.03
battery		
nickel hydrogen size AA battery	-0.22305	-7.63
size AA alkali battery	-0.15094	-6.99
other battery	-0.29963	-6.93
period after release		
3 months or longer but shorter than 12 months	-0.16967	-11.28
12 months or longer but shorter than 18 months	-0.27964	-11.01
18 months or longer	-0.25438	-5.45
number of items (total both in last and present month)	673	
adj.R <sup>2</sup>	0.8329	

### Appendix 4 Candidates for Month-to-Month Chaining Index Formulas

Year  $y$     Month  $m$     Item  $i$     Number of items in the category  $n$

Share of Weight  $S_{i,y}$     Official Laspeyres Index  $I_{y,m}^L$      $I_y^L = \frac{1}{12} \sum_{m=1}^{12} I_{y,m}^L$

Month to Month Chaining Index with the Index in the Previous Month

$$I_{y,m}^{Mon - Mon} = I_{2000,12}^L P_{2001,1} \cdots P_{y,m-1} P_{y,m} \quad P_{y,m} = \sum_{i=1}^n S_{i,y-1} \frac{I_{y,m}^L}{I_{y,m-1}^L} \quad (m \neq 1)$$

$$I_{y,1}^{Mon - Mon} = I_{2000,12}^L P_{2001,1} \cdots P_{y-1,12} P_{y,1} \quad P_{y,1} = \sum_{i=1}^n S_{i,y-1} \frac{I_{y,1}^L}{I_{y-1,12}^L}$$

Month to Month Chaining Index with the Index in the Previous December

$$I_{y,m}^{Dec - Mon} = I_{2000,12}^L P_{2001,12} \cdots P_{y-1,12} P_{y,m} \quad P_{y,m} = \sum_{i=1}^n S_{i,y-1} \frac{I_{y,m}^L}{I_{y-1,12}^L}$$

Month to Month Chaining Index with the Averaged Index in the Previous Year

$$I_{y,m}^{Yea - Mon} = I_{2000}^L P_{2001} \cdots P_{y-1} P_{y,m} \quad P_y = \sum_{i=1}^n S_{i,y-1} \frac{I_y^L}{I_{y-1}^L}$$

$$P_{y,m} = \sum_{i=1}^n S_{i,y-1} \frac{I_{y,m}^L}{I_{y-1}^L}$$

## Appendix 5 List of CPI Items

Groups, Items	Weights (per 10000)		Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo		Japan	Ku-area of Tokyo
General	10 000	10 000	Yogurt	22	21
-----	-----	-----	Butter	2	2
Food	2 730	2 544	Cheese	3	3
Cereals	238	210	Cheese (imported)	6	7
Rice	101	89	Eggs	23	19
Non-glutinous rice	99	87	Hen eggs	23	19
Domestic rice (Specification A)	33	30	Vegetables & seaweeds	284	284
Domestic rice (Specification B)	55	50	Fresh vegetables	171	177
Blended rice	7	6	Cabbage	8	8
Designated standard rice	4	0	Spinach	10	11
Glutinous rice	2	2	Chinese cabbage	4	4
Bread	78	72	Welsh onions	11	12
White bread	47	45	Lettuce	8	9
Bean-jam buns	31	27	Broccoli	5	6
Noodles	47	40	Bean sprouts	4	4
Boiled noodles	10	8	Asparagus	4	5
Dried noodles	9	8	Sweet potatoes	4	4
Spaghetti	3	3	White potatoes	9	9
Instant noodles	14	11	Taros	4	4
Uncooked Chinese noodles	11	10	Radishes	7	7
Flour & other cereals	11	10	Carrots	8	7
Wheat flour	2	2	Burdocks	4	3
"Mochi", rice-cakes	9	8	Onions	8	8
Fish & shellfish	280	238	Lotus roots	3	2
Fresh fish & shellfish	171	147	"Naga-imo" yams	3	3
Tuna fish	32	42	Green soybeans	4	5
Horse mackerel	9	8	Kidney beans	4	5
Sardines	4	3	Pumpkins	3	4
Bonito	9	7	Cucumbers	10	11
Flounder	8	5	Eggplants	6	6
Salmon	17	16	Tomatoes	16	18
Mackerel	6	3	Green peppers	4	4
Saury	6	4	"Shiitake", Japanese mushrooms, fresh	6	5
Sea bream	7	4	"Enokidake", mushrooms	7	6
Yellowtail	14	9	"Shimeji", mushrooms	7	6
Cuttlefish	15	9	Processed vegetables & seaweeds	113	107
Octopus	8	6	Dried vegetables & seaweeds	27	25
Prawns	20	14	"Azuki", red beans	3	2
Short-necked clams	7	7	"Shiitake", Japanese mushrooms, dried	2	2
Oysters	5	4	Laver	12	13
Scallops	5	4	"Wakame", seaweed	5	4
Salted & dried fish	50	44	Dried tangle	5	3
Salted salmon	12	9	Soybean products	39	37
Salted cod roe	15	15	Bean curd	20	19
"Shirasu-boshi", dried young sardines	7	7	Fried bean curd	10	9
Dried horse mackerel	7	8	"Natto", fermented soybeans	10	10
Dried sardines	3	2	Other processed vegetables & seaweeds	46	45
"Niboshi", dried small sardines	3	1	"Konnyaku", devil's-tongue jelly	7	6
Capelin	4	2	"Umeboshi", pickled plums	8	10
Fish-paste products	26	18	Pickled radishes	7	6
"Agekamaboko", fried fish-paste patties	9	6	Pickled chinese cabbage	5	5
"Chikuwa", baked fish-paste bars	6	4	Sliced vegetables pickled in soy sauce	4	4
"Kamaboko", steamed fish-paste cakes	11	8	"Kimuchi"	7	7
Other processed fish	32	29	Tangle prepared in soy sauce	5	5
Dried bonito fillets	4	3	Canned sweet corn	3	4
Pickled fish	12	12	Fruits	113	101
Fish prepared in soy sauce	5	5	Fresh fruits	108	96
Canned fish	9	8	Apples (Specification A)	3	2
"Shiokara", salted fish guts	2	1	Apples (Specification B)	12	9
Meat	205	175	Mandarin oranges	16	14
Fresh meat	160	136	Grapefruits	3	4
Beef (loin)	29	24	Oranges	2	2
Beef (shoulder)	21	18	Lemons	2	2
Beef (imported)	21	18	Iyo-mandarins	3	3
Pork (loin)	36	31	Pears	7	6
Pork (shoulder)	24	20	Grapes (Specification A)	3	2
Chicken	28	24	Grapes (Specification B)	4	4
Liver	1	1	Persimmons	3	3
Meat products	45	39	Peaches	4	4
Ham	20	18	Watermelons	5	4
Sausages	19	16	Melons	7	5
Bacon	6	6	Strawberries	16	15
Dairy products & eggs	115	102	Bananas	11	9
Fresh milk & dairy products	92	82	Kiwi fruits	3	3
Fresh milk	56	46			
(delivered)	11	9			
(sold in stores)	45	37			
Dairy products	36	36			
Powdered milk	4	2			

## Appendix 5 List of CPI Items (Continued)

Groups, Items	Weights (per 10000)		Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo		Japan	Ku-area of Tokyo
Cherries	3	3	Mineral water	6	6
Preserved fruits	5	5	Alcoholic beverages	143	119
Canned fruits (mandarin oranges)	2	2	“Sake” (finest quality)	3	2
Canned fruits (Peaches)	3	3	“Sake” (high quality)	14	8
Oils, fats & seasonings	103	85	“Sake” (medium quality)	11	6
Oils & fats	11	8	“Shochu”, distilled spirits	13	10
Edible oil	8	6	Beer	74	64
Margarine	2	2	Beer (imported)	2	1
Seasonings	92	76	Low-malt beer	11	8
Salt	2	2	Whisky (imported)	1	1
Soy sauce	9	5	Whisky (43% vol. and over)	2	3
Soybean paste	11	11	Whisky (40% or more, but less than 43% vol.)	2	3
Sugar	6	4	Whisky (38% or more, but less than 40% vol.)	1	1
Vinegar	4	4	Wine	3	5
Worcester sauce	3	3	Wine (imported)	5	7
Ketchup	2	2	Eating out	620	662
Mayonnaise	10	8	General meals	586	636
Jam	5	6	Japanese noodles (eating out)	27	31
Instant curry mix	6	6	Chinese noodles	29	28
Instant dried soup	7	7	Spaghetti (eating out)	9	10
Flavour seasonings	6	6	“Nigiri-zushi”, hand-rolled “Sushi”	62	72
“Furikake”, granular flavor seasonings	6	5	“Norimaki”, “Sushi” rolled in laver	7	8
Liquid seasonings	13	11	Chicken & eggs on rice	11	9
Cakes & candies	222	193	“Tendon”, prawns “Tempura” on rice	44	36
“Yokan”, sweet bean jelly	13	17	Curry & rice	45	37
“Manju”, bean-jam cakes	22	11	Bowl of rice topped with seasoned beef	12	10
“Daifukumochi”, rice cakes stuffed with sweetened bean ja	12	11	Ch(i)atzu (eating out)	26	32
“Kasutera”, sponge cakes	5	4	Hamburg steaks	36	32
Cakes	37	34	Fried prawns	33	30
Jelly	10	9	Lunch for children	12	21
Pudding	8	7	Hamburgers	26	37
Cream puffs	5	5	Sandwiches	13	22
“Sembei”, Japanese rice crackers	16	18	Pizza	24	43
“Sembei”, Japanese wheat crackers	4	4	Coffee (eating out)	28	37
Biscuits	13	13	Beer (eating out)	143	140
Potato chips	17	10	School lunch	34	26
Candies	8	6	(elementary school, lower grades)	11	8
Chocolate	14	12	(elementary school, higher grades)	14	10
Ice cream	28	22	(junior high school)	9	8
Peanuts	4	3			
Chewing gum	8	6	Housing	2 003	2 580
Cooked food	263	241	Rent	1 708	2 249
Cooked food with rice, bread or noodles	101	94	House rent, private	300	486
Box lunch	75	67	(small wooden houses)	30	85
Rice balls	10	12	(medium-sized wooden houses)	81	68
Bread like sandwiches put cooked food between bread	10	11	(small non-wooden houses)	58	120
Frozen pilaf	5	5	(medium-sized non-wooden houses)	131	212
Other cooked food	162	147	House rent, public & public corporation	48	100
“Kabayaki”, broiled eels	21	22	House rent, public	27	30
Salad	12	15	House rent, public corporation	21	70
Croquettes	17	14	Imputed rent	1 360	1 663
Cutlets	14	14	(small wooden houses)	1	4
Fried chicken	26	22	(medium-sized wooden houses)	1 107	1 082
Ch(i)atzu	11	11	(small non-wooden houses)	1	7
Frozen croquettes	21	14	(medium-size non-wooden houses)	251	570
Cooked curry	14	12	Repairs & maintenance	295	331
Prepaed materials to boiled rice with assorted ingred	14	12	Materials for repairs & maintenance	58	57
Boiled beans	14	12	Bathubs	28	30
Beverages	145	134	Toilet seat with a hot douche	9	10
Tea	37	42	Hot-water supply equipment	9	10
Green tea (“Bancha”)	2	3	Board	5	4
Green tea (“Sencha”)	19	23	Paint	5	4
Black tea	4	4	Service charges for repairs & maintenance	237	275
Tea beverages	12	12	“Tatami” reupholstering	6	6
Coffee & cocoa	28	23	Plumbing	39	38
Instant coffee	10	9	Plastering	21	24
Coffee beans	7	6	Fence construction	40	44
Coffee beverages	11	8	Gardening	13	5
Other beverages	79	70	Sheet glass replacement	4	5
Fruit juice	13	11	“Fusuma”, sliding doors reupholstering	18	26
Beverages which contains juice	22	19	Carpentering	39	58
Vegetable juice	9	8	Installing air conditioner	11	16
Carbonated beverages	11	10	Fire insurance premium	46	52
Fermented lactic drinks, unsterilized (“Calpis”)	4	3			
Fermented lactic drinks, unsterilized (“Yakuruto”)	9	7			
Sports soft drinks	6	6			

## Appendix 5 List of CPI Items (Continued)

Groups, Items	Weights (per 10000)		Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo		Japan	Ku-area of Tokyo
Fuel, light & water charges	651	573	Food wrap	10	8
Electricity & gas	467	410	Insecticide	8	8
Electricity	294	251	Moth repellent for clothes	1	1
Electricity	294	251	Fabric softener	4	3
Gas	173	159	Fragrance	4	3
Gas, manufactured & piped	88	138	Domestic services	33	17
Liquefied propane	84	21	Domestic help	4	5
Other fuel & light	39	7	Domestic help	4	5
Kerosene	39	7	Sewerage disposal charges	20	3
Water & sewerage charges	145	156	Charges for treatment of human waste	19	0
Water charges	100	86	Charges for large-size refuse disposal	2	3
Sewerage charges	45	70	Other domestic services	8	9
Furniture & household utensils	369	324	Charges for mop-rental	8	9
Household durables	116	107	Clothes & footwear	568	570
Domestic durables	57	45	Clothes	250	254
Microwave ovens	3	4	Japanese clothing	23	23
Electric rice-cookers	8	6	Women's "Kimono"	16	16
Electric pots	3	2	Women's "Obi"	7	7
Gas cooking tables	3	2	Clothing	227	231
Gas water heaters	3	2	Men's clothing	71	72
Refrigerators	19	11	Men's suits (for summer)	15	17
Vacuum cleaners	6	4	Men's suits (for winter)	19	20
Washing machines	9	9	Men's jackets	8	9
Sewing machines	4	4	Men's slacks (for summer)	7	6
Electric irons	1	1	Men's slacks (for winter)	5	4
Heating & cooling appliances	35	38	Men's slacks (jeans)	5	4
Room air conditioners	21	26	Men's coats	7	8
Fan heaters	7	5	Boys' school uniforms	5	3
"Kotatsu", Japanese electric heaters	1	1	Women's clothing	128	134
Electric carpets	6	6	Women's suits (for spring & autumn)	7	7
General furniture	24	24	Women's suits (for summer)	9	10
Chests of drawers	7	7	Women's suits (for winter)	5	6
Wardrobes	5	5	Women's suits (knitted)	5	6
Sitting tables	4	4	One-piece dresses (for spring & autumn)	11	11
Dining sets	4	4	One-piece dresses (for summer)	8	8
Kitchen cabinets	5	5	One-piece dresses (for winter)	1	1
Interior furnishings	38	36	Skirts (for spring & autumn)	4	4
Clocks	3	3	Skirts (for summer)	7	6
Lighting apparatus	8	9	Skirts (for winter)	9	8
Carpets	13	13	Women's slacks (for winter)	11	10
"Goza", rush floor coverings	1	1	Women's slacks (jeans)	11	10
Curtains	13	9	Women's coats	16	21
Bedding	31	30	Women's jackets	17	18
Beds	5	5	Girls' school uniforms	6	8
Quilts	15	14	Children's clothing	28	26
Blankets	3	3	Boys' short pants	8	8
Sheets	3	3	Girls' skirts (for summer)	7	7
Quilt covers	4	5	Girls' skirts (for winter)	8	8
Domestic utensils	80	72	Babies' clothes	5	3
Tableware	21	22	Shirts, sweaters & underwear	163	153
Rice bowls	9	9	Shirts & sweaters	115	106
Dishes	4	5	Men's shirts & sweaters	36	33
Coffee cups & saucers	4	5	Men's business shirts (long sleeves)	7	8
Glasses	2	2	Men's business shirts (short sleeves)	4	4
Wine glasses	2	2	Sport shirts (long sleeves)	7	5
Kitchen utensils	19	19	Sport shirts (short sleeves)	9	7
Sealed kitchenware	5	6	Men's sweaters	10	8
Pans	4	3	Women's shirts & sweaters	69	65
Pans (imported)	4	3	Blouses (long sleeves)	10	10
Kettles	4	3	Blouses (short sleeves)	8	9
Scrubbing brushes	2	2	Women's T-shirts (long sleeves)	8	6
Shelves for microwave oven	1	1	Women's T-shirts (short sleeves)	14	11
Other domestic utensils	40	32	Women's sweaters (long sleeves)	24	23
Fluorescent lamps	11	10	Women's sweaters (short sleeves)	6	6
Towels	12	10	Children's shirts & sweaters	10	9
Vinyl hose	4	3	Children's T-shirts (long sleeves)	4	4
Clean water equipment	13	9	Children's T-shirts (short sleeves)	4	4
Domestic non-durables	71	62	Children's sweaters	1	1
Facial tissue & rolled toilet paper	20	18	Underwear	48	47
Facial tissue	8	8	Men's underwear	16	15
Rollled toilet paper	11	10	Men's undershirts (long sleeves)	2	2
Detergent	25	20	Men's undershirts (short sleeves)	3	3
Liquid detergent, kitchen	10	9	Men's briefs	3	3
Detergent, laundry	15	11	Men's underpants	2	2
Other non-durables	27	23	Men's pajamas	4	4

## Appendix 5 List of CPI Items (Continued)

Groups, Items	Weights (per 10000)		Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo		Japan	Ku-area of Tokyo
Women's underwear	26	27	(ordinary passengers)	31	91
Brassieres	6	9	(students' season tickets)	6	9
Panties	12	10	(commuters' season tickets)	22	41
Slips	8	7	Bus fares	29	22
Children's underwear	6	5	Taxi fares	24	35
Children's undershirts	6	5	Airplane fares	26	37
Footwear	63	60	Toll road charges	44	34
Men's shoes	14	14	National expressway tolls	35	19
Women's shoes	26	28	City expressway tolls	9	15
Children's shoes	3	3	Private transportation	740	408
Canvas shoes (for adults)	7	6	Automobiles	202	75
Canvas shoes (for children)	7	6	less than 660cc	40	15
Sandals	5	3	more than 660cc, but less than 1,500cc	40	15
"Zori", Japanese sandals	1	1	more than 1,500cc, but less than 2,000cc	50	19
Cloth & other clothing	92	103	less than 2,000cc(imported)	10	4
Cloth & thread	9	8	more than 2,000cc	40	15
Women's dress materials	4	3	more than 2,000cc (imported)	20	7
Men's suit materials	4	3	Bicycles	9	10
Woollen yarn	2	2	Bicycles	9	10
Other clothing	45	44	Automotive maintenance	529	324
Hats & caps	7	6	Gasoline (regular)	142	50
Neckties	4	4	Gasoline (premium)	35	12
Neckties (imported)	2	2	Tires	24	8
Mufflers	4	5	Car wax	22	12
Men's socks (for summer)	5	5	Regular inspection	34	15
Men's socks (for winter)	5	5	Muffler replacement	2	1
Women's stockings	6	5	Puncture repairs	2	1
Women's socks	8	6	Motor oil replacement	10	4
Belts	3	3	Charges for garage rental	54	108
Children's tights	3	3	Charges for parking	9	12
Services related to clothing	38	51	Charges for driving licence	2	2
Tailoring charges	2	3	Charges for rental car	11	8
Laundry charges (men's business shirts)	9	13	Automotive insurance premium (compulsion)	32	13
Dry cleaning charges (men's suits)	22	29	Automotive insurance premium (option)	148	78
Footwear repair charges	2	4	Communication	295	261
Charges for clothing rent	2	3	Postage	15	17
Medical care	380	345	Postcards	8	9
Medicines & health fortification	112	101	Letters	4	4
Medicines for cold	13	11	Express delivery post	1	1
Antipyretic & analgesic medicines	4	4	Registered post	1	1
Gastrointestinal medicines	8	8	Parcel post	2	2
Vitamins (Specification A)	15	15	Telephone charges	180	159
Vitamins (Specification B)	15	15	Mobile telephone charges	74	58
Health drinks	13	13	Forwarding charges	17	18
Dermal medicines	6	4	Communication equipments	9	9
Plasters	5	5	Education	398	482
Eyewashes	5	5	School fees	292	352
Breath fresheners	5	5	PTA membership fees (elementary school)	14	11
Chinese medicines	22	19	PTA membership fees (junior high school)	17	11
Medical supplies & appliances	73	68	Junior high school fees, private	11	39
Disposable diapers	11	8	High school fees, public	43	20
Sanitary napkins	9	7	High school fees, private	48	67
Bath preparation	4	3	College & university fees, national	12	7
Contact lenses cleaning solution	5	4	College & university fees, private	93	134
Spectacles	25	25	Junior college fees, private	19	27
Contact lenses	5	7	Kindergarten fees, public	4	1
Bathroom scales	7	6	Kindergarten fees, private	32	35
Thermometers	6	5	School textbooks & reference books for study	11	8
Sphygmomanometers	2	2	School textbooks	4	3
Medical services	195	175	Reference books for study	7	5
Medical treatment	163	143	Tutorial fees	95	122
Delivery fees in national hospital	9	9	Tutorial fees	95	122
Delivery fees in public hospital	14	13	Reading & recreation	1 130	1 141
Charges for massage	7	8	Recreational durables	117	117
Fees for complete medical checkup	2	3	TV sets	22	22
Transportation & communication	1 313	1 023	Stereo phonograph sets	3	3
Public transportation	278	354	Mobile audio equipment	3	2
Railway fares (JR)	95	84	Video tape recorders	4	4
(ordinary fares, excluding "Shinkansen")	26	25	Personal computers (desktop)	22	23
(ordinary fares, for "Shinkansen")	26	25	Personal computers (notes)	22	23
(special fares, excluding "Shinkansen")	9	8	PC printers	10	10
(special fares, for "Shinkansen")	9	8	Word processors	1	1
(students' season tickets)	6	5	Cameras	7	6
(commuters' season tickets)	19	13	Video cameras	7	7
Railway fares (excluding JR)	59	141	Pianos	1	1
			Electronic organs	4	4

## Appendix 5 List of CPI Items (Continued)

Groups, Items	Weights (per 10000)		Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo		Japan	Ku-area of Tokyo
Desks	5	4	Charges for practicing golf	15	16
TV set repair charges	7	6	Charges for playing golf	44	47
Recreational goods	254	219	Tennis court charges	5	6
Stationery	26	29	Game charges, bowling	10	11
Ball-point pens	2	2	Swimming pool charges	10	11
Pencils	1	1	Admission fees to the art museum	9	6
Marking pens	2	2	Admission fees to the recreation ground	15	18
Notebooks	5	6	Game charges, mahjong	2	2
Albums	5	6	Admission fees to the racecourse	8	9
Papers for office automation	3	3	"karaoke room" charges	14	14
Cellophane adhesive tape	2	2	Other recreational services	55	49
Pencil cases	6	7	Photo processing charges	14	13
Sporting goods	64	50	Charges for video rental	6	4
Golf clubs	5	5	Veterinary surgeon fees	20	17
Soccer balls	3	2	Internet connection charges	15	14
Baseball gloves	2	1			
Tennis rackets	1	1	Miscellaneous	456	417
Tennis rackets (imported)	2	2	Personal care services	119	111
Fishing rods	6	4	Bathing charges	2	4
Pants for exercise	39	31	(adults)	2	3
Swimming suits	6	4	(children, 6 ~ 11 years)	1	1
Toys	32	32	(children, under 6 years)	1	1
Video games, hardware	12	12	Men's haircut charges	51	40
Dolls	6	6	Permanent wave charges	33	33
Toy cars	8	8	Women's haircut charges	24	25
Building blocks	6	6	Hair dyeing charges	9	8
Cut flowers	38	35	Toilet articles	123	107
(Carnations)	10	9	Toilet utensils	8	7
(Chrysanthemums)	19	17	Electric shavers	3	3
(Roses)	10	9	Electric shavers (imported)	1	1
Other recreational goods	93	74	Toothbrushes	4	3
Films	4	4	Soap & others	24	21
Compact discs	15	17	Toilet soap	4	3
Media for audio recording	1	1	Shampoo	9	8
Video tapes	2	2	Hair rinse	6	5
Pet foods (dog foods)	16	14	Toothpaste	5	5
Pet foods (cat foods)	11	10	Cosmetics	91	78
Flowerpots	14	8	Hair liquid	12	12
Gardening earth	21	12	Hair tonic	3	3
Dry batteries	8	6	Face cream-A	17	14
Books & other reading materials	158	149	Face cream-B	2	2
Newspapers	98	93	Toilet lotion	21	18
Newspapers	98	93	Milky lotion-A	7	4
(local block)	38	5	Milky lotion-B	1	1
(national)	60	88	Foundation-A	11	8
Magazines	21	18	Foundation-B	4	3
Monthly magazines, boys'	6	5	Lipsticks-A	4	4
Monthly magazines, hobbies & cultures	4	4	Lipsticks-B	1	1
Monthly magazines, living informations	3	3	Hair Dyeing	9	9
Monthly magazines, personal computers	1	1	Personal effects	85	100
Monthly magazines, women's	1	1	Bags	53	56
Weekly magazines	5	4	Handbags	20	20
Books	40	39	Handbags (imported)	20	20
Dictionaries	4	4	School knapsacks	6	5
Books A	8	8	Suitcases	5	10
Books B	28	27	Watches & rings	23	35
Recreational services	600	656	Rings	9	11
Hotel charges	109	126	Wrist watches	6	10
Hotel charges	109	126	Wrist watches (imported)	6	10
Package tours	69	99	Repair charges of wrist watches	3	4
Package tours to overseas	69	99	Other personal effects	10	10
Lesson fees	120	133	Men's umbrellas	5	5
(English conversation school)	14	14	Handkerchiefs	4	4
(calligraphy school)	17	14	Cigarettes	69	54
(music school)	35	35	Cigarettes	52	41
(swimming school)	37	53	Cigarettes (imported)	17	14
(dressmaking school)	1	2	Other	59	45
(cooking school)	1	2	Nursery school fees	35	24
Lesson fees, driving school	14	13	Charges for certificates of registered stamps	2	1
Other recreational services	302	298	Charges for certificates of permanent registration	2	1
Charges for TV licence	80	65	Charges for acquisition of passport	10	9
Charges for NHK TV licence	52	41	Day service fees of nursing care for the aged	5	4
Charges for other TV licence	29	24	Charges for transfer commission	5	4
Admission & game charges	167	185			
Admission, movies	22	35			
Admission, soccer	5	4			
Admission, professional baseball games	7	6			

**Appendix 5 List of CPI Items (Continued)**

Groups, Items	Weights (per 10000)	
	Japan	Ku-area of Tokyo
Fresh food	450	420
Fresh fish & shellfish	171	147
Fresh vegetables	171	177
Fresh fruits	108	96
General, excluding fresh food	9 550	9 580
Food, excluding fresh food	2 279	2 125
General, excluding imputed rent	8 640	8 337
Housing, excluding imputed rent	643	917
Rent, excluding imputed rent	348	586
General, excluding imputed rent & fresh food	8 190	7 917
Expenses for education	485	562
Expenses for reading & recreation	1 247	1 322
General	10 000	10 000
Goods	5 079	4 358
Agricultural & aquatic products	776	700
Fresh agricultural & aquatic products	671	609
Other agricultural & aquatic products	104	91
Industrial products	3 651	3 026
Food products	1 373	1 217
Industrial products manufactured by large enterprises Note)	583	503
Industrial products manufactured by small and medium enterprises	789	714
Textiles	564	541
Industrial products manufactured by large enterprises Note)	15	13
Industrial products manufactured by small and medium enterprises	549	528
Petroleum products	301	90
Other industrial products	1 414	1 178
Industrial products manufactured by large enterprises Note)	1 113	898
Industrial products manufactured by small and medium enterprises	302	279
Electricity, gas & water charges	482	475
Publications	169	157
Services	4 921	5 642
Public services	1 294	1 230
House rent, public & public corporation	48	100
Services related to domestic duties	301	225
Services related to medical care & welfare	203	172
Services related to forwarding & communication	565	606
Services related to education	60	28
Services related to reading & recreation	118	99
General services	3 627	4 412
Eating out	620	662
Private house rent	300	486
Imputed rent	1 360	1 663
Other Services	1 347	1 601
Services related to domestic duties	482	547
Services related to medical care & welfare	32	32
Services related to education	328	446
Services related to reading & recreation	506	576
Rice	101	89
Durable goods	571	450
Semi-durable goods	902	855
Non-durable goods	3 606	3 054
Public services & electricity, gas & water charges	1 854	1 762
Goods, excluding fresh food	4 629	3 939
Services, excluding imputed rent	3 561	3 979
Industrial products manufactured by large enterprises Note)	2 011	1 504
Industrial products manufactured by small and medium enterprises	1 640	1 522
General, seasonally adjusted	-	-
General, excluding fresh food, seasonally adjusted	-	-
General, excluding imputed rent, seasonally adjusted	-	-
General, excluding imputed rent & fresh food, seasonally adjusted	-	-
Goods, seasonally adjusted	-	-
Semi-durable goods, seasonally adjusted	-	-
Goods, excluding fresh food, seasonally adjusted	-	-

Note: Products, in principle, made by enterprises with more than 300 employees

**Appendix 6 Number of Survey Districts by City Groups**

City Groups	Price Survey Districts			Rent Survey Districts
	Group A	Group B	Group C	
Ku-area of Tokyo	42	21	12	54
Osaka-shi	12	12	6	36
Yokohama-shi, Nagoya-shi, Kyoto-shi, Kobe-shi	12	6	2	24
Sapporo-shi, Sendai-shi, Saitama-shi, Chiba-shi, Kawasaki-shi, Hiroshima-shi, Fukuoka-shi, Kitakyushu-shi	8	4	2	18
Cities with prefectural Government (excl. those mentioned above )	4	3	2	9
Cities with population 150,000 or more (excl. cities with prefectural government, Kawasaki-shi and Kitakyushu-shi )	4	3	1	9
Cities with population 50,000 or more but less than 150,000 (excl. cities with prefectural government)	3	3	1	6
Cities with population less than 50,000	2	1	1	3
Towns and a village	1	1	1	3

Note: The number of Districts for the Group B or C for municipalities where Survey Districts have not been established since fiscal year 2003 may be different from those in this table.