

Outline of the Survey of Household Economy

I Outline of the Survey

1. Objectives

This survey is intended to grasp conditions surrounding consumption in terms of a) products related to information and communication technology, and b) expensive products and services with low frequency of consumption.

2. Universe and sampling

The survey unit is a household in Japan except institutional households. The sample households are selected as follows based on the 2010 Population Census:

a. Sampling Unit

The sample households are selected based on the two-stage stratified sampling method. The sampling units at two stages are namely, primarily the survey unit area composed of the Enumeration District (abbreviated as ED hereinafter) of the 2010 Population Census, and secondly the household.

b. Stratification and Allocation of Survey Unit Areas to Strata

i) Households in Japan are stratified by 9 districts and 4 city groups. The number of strata is 35 because there is no city corresponding to Major cities in the Shikoku district. The criteria of the districts and the city groups are as follows:

a) Districts

Hokkaido: Hokkaido;

Tohoku: Aomori-ken, Iwate-ken, Miyagi-ken, Akita-ken, Yamagata-ken and Fukushima-ken;

Kanto: Ibaraki-ken, Tochigi-ken, Gumma-ken, Saitama-ken, Chiba-ken, Tokyo-to, Kanagawa-ken, Yamanashi-ken and Nagano-ken;

Hokuriku: Niigata-ken, Toyama-ken, Ishikawa-ken and Fukui-ken;

Tokai: Gifu-ken, Shizuoka-ken, Aichi-ken and Mie-ken;

Kinki: Shiga-ken, Kyoto-fu, Osaka-fu, Hyogo-ken, Nara-ken and Wakayama-ken;

Chugoku: Tottori-ken, Shimane-ken, Okayama-ken, Hiroshima-ken and Yamaguchi-ken;

Shikoku: Tokushima-ken, Kagawa-ken, Ehime-ken and Kochi-ken;

Kyushu and Okinawa: Fukuoka-ken, Saga-ken, Nagasaki-ken, Kumamoto-ken, Oita-ken, Miyazaki-ken, Kagoshima-ken and Okinawa-ken

b) City groups

Major cities: designated cities under the article 252-19 of the Local Autonomy Law and Ku-areas (ward) of Tokyo;

Middle cities: cities with population of 150,000 or more, excluding Major cities;

Small cities A: cities with population of 50,000 more but less than 150,000;

Small cities B and Towns and villages: cities with population of less than 50,000, towns and villages

ii) The number of the survey unit areas is 3,000. The survey unit areas are allocated to each stratum in proportion to the number of households in the stratum.

c. Sampling the Survey Unit Areas

i) The same number of EDs are randomly selected from each stratum (abbreviated as standard area hereinafter) as a quarter of the number of survey unit areas allocated in b. The municipalities with selected standard areas are selected municipalities.

ii) When the standard area in a selected municipality is only one, the selected municipality is a survey block, which is the area one enumerator covers. When two or more, the selected municipality is divided into the same number of survey blocks as the number of the standard areas so that each block contains nearly equal number of households. The number of the survey blocks reaches 750 in Japan.

iii) Since the survey is conducted for five years in a survey block, the EDs contained in the blocks are divided into five areas, for each survey year so that each area contains nearly equal number of households.

iv) A divided survey block in iii) is divided again into four areas. An enumerator covers four survey unit areas in which the beginning month of the survey differs.

d. Sampling the Households

When sample households are selected from a survey unit area, the list of the households in a survey unit area is prepared from the basic resident register or the electoral roll. Ten households (of the two-or-more-person household is nine, one-person household is one) are randomly sampled from this list. As a result, 30,000 households in total are selected from 3,000 survey unit areas nationwide in Japan.

e. Rotation of sample

The sample households are continuously surveyed for 12 months, and then substituted with other households in another region divided in c. iii) and c. iv).

The sample households are divided into 12 groups. As a rule, one of the groups is replaced every month. Each group is composed of 2,500 households which are one-twelfth of all sample households.

Any household unable to continue with the survey due to moving or some other reasons is replaced by a substitute household for the remaining survey period if it is 3 months or more.

3. Survey items

The following items are surveyed:

- a. Items related to the household conditions (Questionnaire A)
 - Items related to the household
 - Utilization of electronic money etc.
- b. Items related to consumption of specific goods and services each month (Questionnaire B)
 - Items related to the household (changes from the previous month)
 - Expenditure over one month for specific goods and services
 - Total expenditure of the household
 - Use of the Internet in terms of consumption

4. Survey method

The survey is entrusted to a private survey agency. Questionnaires are delivered to the households by enumerators. Either collection by enumerators or mail-in by the households is used to collect the questionnaires.

Enumerators collect the questionnaires of the first, 6th and 10th months of the survey period after January 2013, and collected in the first and 6th months from April 2008 to December 2012.

5. Survey period

The survey is conducted every month.

6. Tabulation

a. Major tabulation items

- Items related to the household
- Items related to utilization of electronic money etc.
- Item related to monthly expenditure for specific goods and services per household
- Total expenditure using the Internet

b. Process for tabulation

The data are tabulated at the National Statistics Center, Japan.

c. Estimate formula

The national and regional averages are estimated as follows: There are differences in the sampling ratios of the covered households by stratum. Therefore, the reciprocals of the sampling ratios are used as the multiplication ratios (linear multiplication ratios) for the tabulation of the items used for the estimation of the household ratios. Using these ratios, the correction coefficients are obtained from the results of the Labour Force Survey. The results are estimated using these two multiplication ratios namely the linear multiplication ratios and the correction coefficients.

In case of one-person households, the linear multiplication ratio is fixed at one.

The quarterly and annual averages are obtained by the simple mean of monthly averages.

Monthly averages are estimated in the following formula:

- The number of households

$$N = \sum_i \sum_j \sum_k \alpha_{ij} C_{ik}$$

N : Number of households

α_{ij} : Linear multiplication ratio of district i and city group j

C_{ik} : Correction coefficient by district i and household members k (one-person households by sex and age)

- The expenditure of monthly average

$$\bar{X} = \frac{\sum_i \sum_j \sum_k \sum_p X_{ijkp} \alpha_{ij} C_{ik}}{N}$$

\bar{X} : Total expenditure

X_{ijkp} : Expenditure on given item by districts i , city group j , household members k and household p (one-person households by sex and age)

d. Sampling error of estimate

The result of the sampling error for 2014 annual average by using monthly tabulated data is shown in the table at the end titled “Standard error and standard error ratio”.

The estimation method of the standard errors is as follows:

i) Standard error of monthly average

Standard error of monthly average is calculated by the following formula, regarding as the sample was composed of 12 sub-samples by the beginning month of the survey:

$$\hat{\sigma}(\bar{X}) = \sqrt{\frac{1}{12 \times (12-1)} \sum_{w=1}^{12} (\hat{X}_w - \bar{X})^2}$$

$\hat{\sigma}(\bar{X})$: Standard error of monthly average

\hat{X}_w : Estimation value by w sub-sample

\bar{X} : Estimation value by all samples

ii) Standard error of annual average

Standard error of annual average is calculated by the following formula using the standard errors of monthly average:

$$\hat{\sigma}_{year}(\bar{X}) = \sqrt{\frac{\sum_{m=1}^{12} \hat{\sigma}(\bar{X})_m^2}{(12)^2}}$$

$\hat{\sigma}_{year}(\bar{X})$: Standard error of annual average

$\hat{\sigma}(\bar{X})_m$: Standard error of monthly average in month m

Calculation of the ratio of standard error is as follows:

$$r_x = \frac{\hat{\sigma}(\bar{X})}{\bar{X}} \times 100$$

r_x : Ratio of standard error

e. Effective response rate

The effective response rate of 2014 is 70.1%.

7. Utilization of the results

The results of this survey are utilized as basic data for the Quarterly Estimates of GDP and the Composite Index of Consumption Expenditure for the Family Income and Expenditure Survey.

8. Notes

The survey was conducted as a general statistical survey in compliance with the Statistics Act (Act No. 53, 2007).

Table Standard error and Standard error ratio

(All Japan)

2014 Average	All Households			Two-or-more-person Households			One-person Households		
	Expenditure (In Yen)	Standard error (In Yen)	Standard error ratio (%)	Expenditure (In Yen)	Standard error (In Yen)	Standard error ratio (%)	Expenditure (In Yen)	Standard error (In Yen)	Standard error ratio (%)
Number of persons per household (persons)	2.42	0.00	0.0	3.05	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.19	0.00	0.0	1.48	0.00	0.0	0.54	0.01	1.9
Age of household head (years old)	59.3	0.1	0.2	60.1	0.1	0.2	57.5	0.2	0.3
01 Mobile telephone (cell phone, PHS) charges	9,470	46	0.5	11,595	52	0.4	4,687	68	1.5
02 Telephone charges	2,422	10	0.4	2,733	9	0.3	1,721	18	1.0
03 Internet connection charges	1,930	9	0.5	2,168	6	0.3	1,393	26	1.9
04 CATV licence fees (viewing and internet connection)	910	6	0.7	1,090	6	0.6	503	15	3.0
05 CATV licence fees (viewing only)	417	4	1.0	444	4	0.9	354	12	3.4
06 Digital satellite broadcast viewing fees	298	4	1.3	338	4	1.2	209	9	4.3
07 Chests of drawers	88	6	6.8	112	7	6.3	34	11	32.4
08 Beds	239	13	5.4	294	14	4.8	115	28	24.3
09 Quilts	416	16	3.8	485	14	2.9	261	42	16.1
10 Desks and chairs (for work or study)	139	8	5.8	174	8	4.6	62	16	25.8
11 Sideboards	102	7	6.9	132	9	6.8	34	10	29.4
12 Drawing room suites	242	15	6.2	309	17	5.5	90	29	32.2
13 Musical instruments (including parts of instruments)	166	13	7.8	196	14	7.1	97	28	28.9
14 Men's suits	701	26	3.7	799	19	2.4	481	75	15.6
15 Women's one-piece dresses and suits	957	21	2.2	1,068	19	1.8	709	49	6.9
16 Japanese clothing (for men and women)	470	42	8.9	485	33	6.8	435	100	23.0
17 Wrist watches	327	23	7.0	345	20	5.8	285	55	19.3
18 Accessories	764	33	4.3	784	29	3.7	718	99	13.8
19 Automobiles (new)	10,898	504	4.6	13,771	396	2.9	4,428	1,330	30.0
20 Automobiles (second-hand)	2,536	199	7.8	3,038	137	4.5	1,400	528	37.7
21 Automotive insurance premium (compulsion)	743	14	1.9	905	12	1.3	376	34	9.0
22 Automotive insurance premium (option)	3,211	30	0.9	3,928	31	0.8	1,597	74	4.6
23 Motorized vehicles other than automobiles	212	18	8.5	264	21	8.0	93	33	35.5
24 Automotive maintenance and repairs	3,822	51	1.3	4,566	41	0.9	2,143	125	5.8
25 House-related equipping/ construction/ repair costs (interior)	3,528	140	4.0	4,345	153	3.5	1,691	269	15.9
26 House-related equipping/ construction/ repair costs (exterior)	4,985	187	3.8	5,719	198	3.5	3,327	409	12.3
27 Water supply and drainage construction costs	1,407	57	4.1	1,611	66	4.1	945	113	12.0
28 Gardens, trees and plants tending costs	650	20	3.1	719	23	3.2	495	35	7.1
29 Rents for dwelling	11,207	116	1.0	8,319	84	1.0	17,714	261	1.5
30 Rents for land	517	16	3.1	598	18	3.0	334	33	9.9
31 Refrigerators	733	22	3.0	920	26	2.8	311	40	12.9
32 Washing machines	487	15	3.1	605	16	2.6	218	28	12.8
33 Air conditioners	1,081	34	3.1	1,299	36	2.8	588	69	11.7
34 Sewing machines	55	5	9.1	61	5	8.2	43	11	25.6
35 Stereo phonograph sets	40	6	15.0	43	4	9.3	36	16	44.4
36 Personal computers	1,096	33	3.0	1,245	27	2.2	756	89	11.8
37 Personal computer peripherals and softwares	273	15	5.5	243	7	2.9	341	44	12.9
38 Mobile telephones (cell phone, PHS unit prices and entry fees)	411	16	3.9	479	14	2.9	258	41	15.9
39 Fax	50	3	6.0	57	2	3.5	35	9	25.7
40 TV	439	18	4.1	522	19	3.6	251	38	15.1
41 Digital broadcast tuner and antenna	25	2	8.0	28	2	7.1	19	5	26.3
42 Video recorders (DVD recorder, player, etc. are included)	186	9	4.8	192	7	3.6	175	24	13.7
43 Video games, hardware & softwares	155	11	7.1	145	4	2.8	179	33	18.4
44 Cameras (excluding disposable cameras)	204	12	5.9	230	9	3.9	145	34	23.4
45 Video cameras	57	4	7.0	69	4	5.8	29	8	27.6
46 Car navigation systems	99	10	10.1	108	7	6.5	78	27	34.6
47 Dental treatment	1,932	46	2.4	2,248	39	1.7	1,220	119	9.8
48 Medical treatment (excluding dental)	4,663	29	0.6	5,635	29	0.5	2,476	58	2.3
49 Delivery fees	79	10	12.7	114	15	13.2	-	0	-
50 Hospital charges (excluding delivery)	1,801	39	2.2	2,324	46	2.0	624	61	9.8
51 Tuition (kindergarten-university) (public)	1,762	34	1.9	2,524	46	1.8	46	30	65.2
52 Tuition (kindergarten-university) (private)	6,764	147	2.2	9,496	206	2.2	601	146	24.3
53 Tutorial fees	2,616	36	1.4	3,694	50	1.4	187	30	16.0
54 Highway fares (using ETC)	1,066	12	1.1	1,306	10	0.8	528	25	4.7
55 Highway fares (excluding ETC)	94	4	4.3	101	2	2.0	79	10	12.7
56 Lesson fees, driving school	467	39	8.4	624	30	4.8	116	107	92.2
57 Airplane fares	950	43	4.5	1,006	31	3.1	825	110	13.3
58 Accommodation services	2,182	39	1.8	2,445	29	1.2	1,590	110	6.9
59 Package tour costs (domestic)	3,004	42	1.4	3,567	45	1.3	1,735	104	6.0
60 Package tour costs (overseas)	2,186	70	3.2	2,593	81	3.1	1,266	168	13.3
61 Rental fees for sports facilities	1,170	15	1.3	1,302	14	1.1	874	33	3.8
62 Wedding ceremony and reception costs	1,320	89	6.7	1,760	128	7.3	330	115	34.8
63 Funeral service costs	2,881	114	4.0	3,438	136	4.0	1,630	225	13.8
64 Religion-related costs	1,970	77	3.9	2,123	82	3.9	1,625	181	11.1
(Reference) Households filling in total expenditure									
Total expenditure	293,726	1,014	0.3	339,508	795	0.2	189,353	2,160	1.1
Remittance	4,226	100	2.4	4,786	67	1.4	2,944	263	8.9
Money gifts	7,842	105	1.3	8,651	127	1.5	5,995	233	3.9
Total expenditure on goods and services ordered over the Internet	6,000	65	1.1	6,505	56	0.9	4,847	164	3.4

Monthly expenditure per household by All Japan (including agricultural, forestry, and fisheries households)