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 2015 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 2015 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 which is based on the 2015 Population Census.

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 resister 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
- Use state related to electronic money
- Purchase situation using the internet

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
- Expenditure over one month for goods

and services through the internet

4. Survey method

The survey is entrusted to a private survey institution. Enumerators will leave questionnaires with target households for them to answer, which will be collected later on. (On-line submission is also used.) Questionnaires shall be collected by enumerators, mailed by households, or answered through an on-line survey system by households.

Questionnaires are distributed when cooperation for the survey is requested and questionnaires of the previous month are collected. For paper questionnaires submission, as a rule, enumerators collect questionnaires in the first and sixth months of the survey and households mail private survey institution in the other months. Also, questionnaires are collected in the beginning of the following month of the survey.

5. Survey period

The survey is conducted every month.

6. Tabulation

a. Major tabulation items
- Items related to the household
- Use state related to electronic money
- Purchase situation using the internet
- Amount paid for specific goods and services
- Amount paid purchase of goods and services through the internet (internet shopping)

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

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

$\overline{X}$　: 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 2018 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:

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

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

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

$\overline{X}$　: 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:

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

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

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

Calculation of the ratio of standard error is as follows:

$$r_X = \frac{\hat{\sigma}(\overline{X})}{\overline{X}} \times 100$$

r_X　: Ratio of standard error

e. Effective response rate

The effective response rate of 2018 is 73.4%.

7. Utilization of the results

The results of this survey are utilized as basic data for the Quarterly Estimates of GDP and the Household Consumption Trend Index 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（Specific goods and services）

<div style="text-align:right">(All Japan)</div>

2018 Average	Total 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)	2.33	0.00	0.0	2.99	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.18	0.00	0.0	1.50	0.00	0.0	0.55	0.00	0.0
Age of household head (years old)	59.9	0.1	0.2	60.7	0.1	0.2	58.3	0.2	0.3
Total expenditure on specific goods and services (50 items)	79,642	661	0.8	96,680	636	0.7	44,840	1,684	3.8
01 Smartphone (cell phone, PHS) charges	10,722	37	0.3	13,201	44	0.3	5,657	57	1.0
02 Internet connection charges	3,335	17	0.5	3,892	13	0.3	2,198	34	1.5
03 Mobile telephones unit prices (cell phone, PHS)	1,016	41	4.0	1,111	26	2.3	820	117	14.3
04 Airplane fares	1,035	31	3.0	1,223	36	2.9	651	62	9.5
05 Accommodation services	2,002	42	2.1	2,404	38	1.6	1,182	88	7.4
06 Package tour costs (domestic)	2,006	37	1.8	2,451	42	1.7	1,096	73	6.7
07 Package tour costs (overseas)	1,615	76	4.7	1,996	84	4.2	838	192	22.9
08 Tuition (kindergarten-university) (public)	1,399	34	2.4	2,009	41	2.0	153	74	48.4
09 Tuition (kindergarten-university) (private)	5,713	157	2.7	8,216	202	2.5	598	183	30.6
10 Tutorial fees	2,183	35	1.6	3,193	52	1.6	121	18	14.9
11 Lesson fees, driving school	374	20	5.3	548	28	5.1	17	8	47.1
12 Rental fees for sports facilities	921	11	1.2	1,060	14	1.3	637	21	3.3
13 Men's suits	572	18	3.1	703	15	2.1	304	45	14.8
14 Women's one-piece dresses and suits	609	17	2.8	696	17	2.4	430	35	8.1
15 Japanese clothing (for men and women)	306	49	16.0	288	23	8.0	344	132	38.4
16 Wrist watches	280	19	6.8	353	25	7.1	132	33	25.0
17 Accessories	550	52	9.5	526	21	4.0	598	152	25.4
18 Delivery fees	98	10	10.2	145	14	9.7	3	3	100.0
19 Hospital charges (excluding delivery)	1,689	36	2.1	2,126	39	1.8	797	67	8.4
20 Chests of drawers	80	8	10.0	93	5	5.4	52	22	42.3
21 Beds	189	9	4.8	250	11	4.4	64	13	20.3
22 Quilts	318	10	3.1	389	12	3.1	172	18	10.5
23 Desks and chairs (for work or study)	103	7	6.8	132	7	5.3	44	13	29.5
24 Sideboards	68	7	10.3	87	8	9.2	30	10	33.3
25 Dining tables and chairs	121	8	6.6	162	10	6.2	37	11	29.7
26 Drawing room suites	177	13	7.3	218	13	6.0	95	27	28.4
27 Musical instruments (including parts of instruments)	130	15	11.5	143	11	7.7	104	41	39.4
28 Refrigerators	597	22	3.7	728	23	3.2	329	46	14.0
29 Vacuum cleaners	303	10	3.3	349	8	2.3	208	26	12.5
30 Washing machines	534	31	5.8	641	19	3.0	315	89	28.3
31 Air conditioners	1,256	51	4.1	1,504	38	2.5	749	131	17.5
32 Personal computers (including tablet devices, excluding peripherals and software)	638	28	4.4	794	25	3.1	320	72	22.5
33 TV	517	22	4.3	604	20	3.3	340	49	14.4
34 Video recorders (DVD or Blu-ray recorder, player, etc.)	165	8	4.8	181	7	3.9	131	21	16.0
35 Video game hardware (excluding software)	134	10	7.5	142	5	3.5	118	31	26.3
36 Cameras (including lenses only, excluding disposable cameras)	142	10	7.0	179	9	5.0	69	24	34.8
37 Video cameras	26	2	7.7	38	3	7.9	2	2	100.0
38 House-related equipping/ construction/ repair costs	6,453	311	4.8	7,496	228	3.0	4,324	810	18.7
39 Water supply and drainage construction costs	1,918	78	4.1	2,270	84	3.7	1,198	151	12.6
40 Gardens, trees and plants tending costs	493	19	3.9	497	21	4.2	485	45	9.3
41 Automobiles (new)	11,021	396	3.6	13,815	367	2.7	5,312	991	18.7
42 Automobiles (second-hand)	3,214	193	6.0	4,038	160	4.0	1,530	476	31.1
43 Automotive insurance premium (compulsion)	685	12	1.8	821	10	1.2	410	28	6.8
44 Automotive insurance premium (option)	2,658	38	1.4	3,175	29	0.9	1,602	86	5.4
45 Motorized vehicles other than automobiles	188	18	9.6	243	19	7.8	76	43	56.6
46 Automotive maintenance and repairs	2,822	47	1.7	3,339	39	1.2	1,766	122	6.9
47 Wedding ceremony and reception costs	798	72	9.0	1,074	98	9.1	235	78	33.2
48 Funeral service costs	3,612	201	5.6	3,150	138	4.4	4,557	509	11.2
49 Religion-related costs	1,481	75	5.1	1,376	69	5.0	1,695	189	11.2
50 Remittance	2,379	56	2.4	2,614	42	1.6	1,901	136	7.2

Monthly Expenditure per Household by All Japan

Table Standard error and Standard error ratio（Goods and services ordered over the Internet）

<div align="right">(All Japan)</div>

2018 Average		Total 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)	2.33	0.00	0.0	2.99	0.00	0.0	1.00	0.00	0.0
	Number of earners per household (persons)	1.18	0.00	0.0	1.50	0.00	0.0	0.55	0.00	0.0
	Age of household head (years old)	59.9	0.1	0.2	60.7	0.1	0.2	58.3	0.2	0.3
	Total expenditure on goods and services ordered over the Internet	11,030	122	1.1	12,610	118	0.9	7,803	234	3.0
51	Gift items	475	14	2.9	535	11	2.1	353	33	9.3
	For home	10,555	121	1.1	12,076	118	1.0	7,449	231	3.1
52	Foods	999	19	1.9	1,227	21	1.7	533	41	7.7
53	Beverages	305	6	2.0	349	4	1.1	217	14	6.5
54	Deliveries	125	5	4.0	145	4	2.8	84	13	15.5
55	Home electronics	637	20	3.1	743	19	2.6	421	42	10.0
56	Furniture	225	7	3.1	281	7	2.5	111	14	12.6
57	Men's clothing	294	10	3.4	327	8	2.4	227	28	12.3
58	Women's clothing	587	13	2.2	720	11	1.5	318	33	10.4
59	Footwear and other clothing	287	6	2.1	363	6	1.7	134	13	9.7
60	Medicines	96	3	3.1	111	2	1.8	68	8	11.8
61	Health foods	479	10	2.1	510	7	1.4	416	26	6.3
62	Cosmetics	390	7	1.8	477	6	1.3	214	16	7.5
63	Private transportation	301	21	7.0	273	10	3.7	359	57	15.9
64	Books and other reading materials	262	7	2.7	276	4	1.4	235	18	7.7
65	Software (music, video, personal computer, TV game)	356	17	4.8	318	5	1.6	436	51	11.7
66	Digital books	90	5	5.6	76	2	2.6	118	14	11.9
67	Download music, video, applications	154	11	7.1	95	3	3.2	274	35	12.8
68	Insurance	422	16	3.8	502	12	2.4	257	37	14.4
69	Accommodation services, fares, package tours(payment on the Internet)	1,785	41	2.3	2,212	48	2.2	913	74	8.1
70	Accommodation services, fares, package tours(payment on-site)	750	27	3.6	871	23	2.6	504	57	11.3
71	Tickets	494	13	2.6	533	9	1.7	413	39	9.4
72	Other goods and services	1,515	40	2.6	1,670	27	1.6	1,199	100	8.3

Monthly Expenditure per Household by All Japan