

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 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
- 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

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

\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 2020 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 2020 is 71.4%.

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)

(All Japan)

2020 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)	2.28	0.00	0.0	2.96	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.18	0.00	0.0	1.51	0.00	0.0	0.58	0.01	1.7
Age of household head (years old)	59.4	0.1	0.2	60.4	0.1	0.2	57.6	0.3	0.5
Total expenditure on specific goods and services (50 items)	73,586	839	1.1	91,224	805	0.9	40,558	1,721	4.2
1 Smartphone (cell phone, PHS) charges	10,638	35	0.3	13,134	42	0.3	5,963	69	1.2
2 Internet connection charges	3,515	17	0.5	4,189	16	0.4	2,253	30	1.3
3 Mobile telephones unit prices (cell phone, PHS)	1,191	35	2.9	1,453	30	2.1	699	74	10.6
4 Airplane fares	335	19	5.7	353	15	4.2	302	49	16.2
5 Accommodation services	1,228	33	2.7	1,493	27	1.8	734	74	10.1
6 Package tour costs (domestic)	787	43	5.5	926	25	2.7	527	107	20.3
7 Package tour costs (overseas)	273	54	19.8	270	31	11.5	277	135	48.7
8 Tuition (kindergarten-university) (public)	1,195	25	2.1	1,824	37	2.0	18	15	83.3
9 Tuition (kindergarten-university) (private)	5,570	179	3.2	8,114	232	2.9	808	252	31.2
10 Tutorial fees	2,253	39	1.7	3,343	46	1.4	216	73	33.8
11 Lesson fees, driving school	489	34	7.0	658	29	4.4	171	83	48.5
12 Rental fees for sports facilities	705	14	2.0	830	11	1.3	472	32	6.8
13 Men's suits	386	16	4.1	486	13	2.7	199	35	17.6
14 Women's one-piece dresses and suits	471	13	2.8	556	16	2.9	309	26	8.4
15 Japanese clothing (for men and women)	212	18	8.5	262	25	9.5	118	30	25.4
16 Wrist watches	278	29	10.4	295	21	7.1	246	62	25.2
17 Accessories	431	36	8.4	445	24	5.4	402	92	22.9
18 Delivery fees	135	12	8.9	203	19	9.4	9	6	66.7
19 Hospital charges (excluding delivery)	1,498	41	2.7	1,877	43	2.3	788	89	11.3
20 Chests of drawers	101	7	6.9	120	7	5.8	66	16	24.2
21 Beds	264	26	9.8	282	13	4.6	230	66	28.7
22 Quilts	345	18	5.2	398	13	3.3	245	44	18.0
23 Desks and chairs (for work or study)	151	7	4.6	196	8	4.1	68	16	23.5
24 Sideboards	76	6	7.9	100	7	7.0	31	11	35.5
25 Dining tables and chairs	150	14	9.3	172	9	5.2	109	36	33.0
26 Drawing room suites	192	13	6.8	236	14	5.9	109	24	22.0
27 Musical instruments (including parts of instruments)	199	31	15.6	225	17	7.6	151	84	55.6
28 Refrigerators	745	30	4.0	918	31	3.4	423	67	15.8
29 Vacuum cleaners	326	10	3.1	391	9	2.3	205	20	9.8
30 Washing machines	685	37	5.4	831	22	2.6	410	91	22.2
31 Air conditioners	1,325	37	2.8	1,662	36	2.2	695	75	10.8
32 Personal computers (including tablet devices, excluding peripherals and software)	1,206	54	4.5	1,383	32	2.3	873	148	17.0
33 TV	769	27	3.5	927	26	2.8	475	58	12.2
34 Video recorders (DVD or Blu-ray recorder, player, etc.)	172	10	5.8	193	7	3.6	131	27	20.6
35 Video game hardware (excluding software)	182	11	6.0	218	6	2.8	117	31	26.5
36 Cameras (including lenses only, excluding disposable cameras)	116	13	11.2	140	10	7.1	69	33	47.8
37 Video cameras	17	2	11.8	22	2	9.1	6	4	66.7
38 House-related equipping/ construction/ repair costs	5,676	233	4.1	6,689	230	3.4	3,782	570	15.1
39 Water supply and drainage construction costs	1,839	68	3.7	2,244	76	3.4	1,081	127	11.7
40 Gardens, trees and plants tending costs	495	27	5.5	498	19	3.8	490	60	12.2
41 Automobiles (new)	10,338	451	4.4	13,709	453	3.3	4,033	914	22.7
42 Automobiles (second-hand)	3,675	281	7.6	4,479	175	3.9	2,162	742	34.3
43 Automotive insurance premium (compulsion)	638	13	2.0	780	13	1.7	373	28	7.5
44 Automotive insurance premium (option)	2,767	33	1.2	3,407	36	1.1	1,567	60	3.8
45 Motorized vehicles other than automobiles	255	34	13.3	312	26	8.3	150	82	54.7
46 Automotive maintenance and repairs	2,973	55	1.8	3,568	41	1.1	1,859	136	7.3
47 Wedding ceremony and reception costs	538	201	37.4	474	62	13.1	655	573	87.5
48 Funeral service costs	2,659	152	5.7	2,538	119	4.7	2,884	384	13.3
49 Religion-related costs	1,256	77	6.1	1,230	54	4.4	1,305	202	15.5
50 Remittance	1,870	41	2.2	2,174	34	1.6	1,296	95	7.3

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

(All Japan)

2020Average	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)	2.28	0.00	0.0	2.96	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.18	0.00	0.0	1.51	0.00	0.0	0.58	0.01	1.7
Age of household head (years old)	59.4	0.1	0.2	60.4	0.1	0.2	57.6	0.3	0.5
Total expenditure on goods and services ordered over the Internet	14,557	195	1.3	16,339	140	0.9	11,229	420	3.7
51 Gift items	668	17	2.5	800	13	1.6	421	41	9.7
Total expenditure for home	13,890	194	1.4	15,539	138	0.9	10,807	417	3.9
52 Foods	1,790	33	1.8	2,181	23	1.1	1,059	67	6.3
53 Beverages	492	12	2.4	560	6	1.1	365	29	7.9
54 Deliveries	349	10	2.9	356	4	1.1	337	27	8.0
55 Home electronics	1,302	50	3.8	1,453	32	2.2	1,019	123	12.1
56 Furniture	443	25	5.6	497	12	2.4	343	63	18.4
57 Men's clothing	426	14	3.3	477	9	1.9	330	36	10.9
58 Women's clothing	784	15	1.9	954	15	1.6	468	31	6.6
59 Footwear and other clothing	408	10	2.5	513	7	1.4	213	27	12.7
60 Medicines	185	5	2.7	209	4	1.9	139	12	8.6
61 Health foods	577	13	2.3	647	9	1.4	446	29	6.5
62 Cosmetics	589	11	1.9	687	7	1.0	405	26	6.4
63 Private transportation	341	22	6.5	402	18	4.5	229	54	23.6
64 Books and other reading materials	360	9	2.5	406	6	1.5	274	21	7.7
65 Software (music, video, personal computer, TV game)	480	21	4.4	429	8	1.9	575	55	9.6
66 Digital books	179	8	4.5	143	2	1.4	245	22	9.0
67 Download music, video, applications	338	23	6.8	180	5	2.8	633	70	11.1
68 Insurance	699	40	5.7	782	17	2.2	543	108	19.9
69 Accommodation services, fares, package tours(payment on the Internet)	1,023	52	5.1	1,122	27	2.4	837	128	15.3
70 Accommodation services, fares, package tours(payment on-site)	422	19	4.5	525	15	2.9	229	45	19.7
71 Tickets	293	11	3.8	313	7	2.2	257	28	10.9
72 Other goods and services	2,411	45	1.9	2,704	40	1.5	1,863	103	5.5

Monthly Expenditure per Household by All Japan