

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 products related to information and communication technology, and goods and services ordered over the Internet, and 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 2022 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 2022 is 73.0%.

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)

2022 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)	2.23	0.00	0.0	2.92	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.17	0.00	0.0	1.49	0.00	0.0	0.59	0.00	0.0
Age of household head (years old)	59.6	0.1	0.2	60.8	0.1	0.2	57.6	0.2	0.3
Total expenditure on specific goods and services (50 items)	71,020	625	0.9	90,558	789	0.9	36,464	967	2.7
01 Mobile telephones charges	9,543	34	0.4	11,971	38	0.3	5,250	53	1.0
02 Internet connection charges	3,721	15	0.4	4,413	13	0.3	2,497	28	1.1
03 Mobile telephones unit prices	1,243	45	3.6	1,480	34	2.3	823	103	12.5
04 Airplane fares	686	42	6.1	754	27	3.6	564	105	18.6
05 Accommodation services	2,049	74	3.6	2,484	35	1.4	1,279	195	15.2
06 Package tour costs (domestic)	1,165	37	3.2	1,472	35	2.4	625	72	11.5
07 Package tour costs (overseas)	83	14	16.9	120	20	16.7	18	17	94.4
08 Tuition (kindergarten-university) (public)	1,254	48	3.8	1,777	46	2.6	330	100	30.3
09 Tuition (kindergarten-university) (private)	5,012	102	2.0	7,746	161	2.1	171	55	32.2
10 Tutorial fees	2,394	36	1.5	3,662	52	1.4	151	28	18.5
11 Lesson fees, driving school	404	22	5.4	596	30	5.0	65	40	61.5
12 Rental fees for sports facilities	847	15	1.8	1,014	16	1.6	553	25	4.5
13 Men's suits	381	17	4.5	484	14	2.9	199	38	19.1
14 Women's one-piece dresses and suits	460	16	3.5	549	14	2.6	303	32	10.6
15 Japanese clothing	203	19	9.4	255	24	9.4	110	30	27.3
16 Wrist watches	290	20	6.9	373	26	7.0	145	36	24.8
17 Accessories	409	21	5.1	475	24	5.1	293	41	14.0
18 Delivery fees	146	14	9.6	226	21	9.3	6	6	100.0
19 Hospital charges (excluding delivery)	1,507	44	2.9	1,869	40	2.1	869	87	10.0
20 Chests of drawers	85	6	7.1	108	6	5.6	44	13	29.5
21 Beds	221	15	6.8	261	13	5.0	149	33	22.1
22 Quilts	279	11	3.9	360	13	3.6	134	18	13.4
23 Desks and chairs (for work or study)	134	9	6.7	178	9	5.1	55	17	30.9
24 Sideboards	85	7	8.2	119	11	9.2	26	10	38.5
25 Dining tables and chairs	122	7	5.7	162	10	6.2	50	12	24.0
26 Drawing room suites	168	10	6.0	223	13	5.8	70	19	27.1
27 Musical instruments (including parts of instruments)	186	51	27.4	162	15	9.3	229	140	61.1
28 Refrigerators	692	31	4.5	848	27	3.2	416	72	17.3
29 Vacuum cleaners	293	9	3.1	366	9	2.5	164	18	11.0
30 Washing machines	559	19	3.4	742	23	3.1	236	29	12.3
31 Air conditioners	1,203	31	2.6	1,587	38	2.4	522	54	10.3
32 Personal computers (including tablet devices, excluding peripherals and software)	997	55	5.5	1,136	30	2.6	750	137	18.3
33 TV	650	32	4.9	791	25	3.2	400	70	17.5
34 Video recorders (DVD or Blu-ray recorder, player, etc.)	120	7	5.8	132	6	4.5	99	17	17.2
35 Video game hardware (excluding software)	120	11	9.2	132	5	3.8	97	30	30.9
36 Cameras (including lenses only, excluding disposable cameras)	133	27	20.3	130	10	7.7	138	69	50.0
37 Video cameras	29	7	24.1	25	3	12.0	36	19	52.8
38 House-related equipping/ construction/ repair costs	5,960	230	3.9	7,353	254	3.5	3,502	389	11.1
39 Water supply and drainage construction costs	1,827	71	3.9	2,268	87	3.8	1,050	136	13.0
40 Gardens, trees and plants tending costs	500	21	4.2	520	23	4.4	464	45	9.7
41 Automobiles (new)	9,336	323	3.5	12,931	422	3.3	2,981	555	18.6
42 Automobiles (second-hand)	3,081	177	5.7	3,923	181	4.6	1,592	389	24.4
43 Automotive insurance premium (compulsion)	537	11	2.0	673	10	1.5	296	20	6.8
44 Automotive insurance premium (option)	2,725	35	1.3	3,332	31	0.9	1,650	75	4.5
45 Motorized vehicles other than automobiles	241	26	10.8	301	26	8.6	135	57	42.2
46 Automotive maintenance and repairs	2,989	72	2.4	3,684	46	1.2	1,759	178	10.1
47 Wedding ceremony and reception costs	431	49	11.4	629	73	11.6	83	41	49.4
48 Funeral service costs	2,463	125	5.1	2,476	121	4.9	2,440	290	11.9
49 Religion-related costs	1,183	70	5.9	1,136	61	5.4	1,265	161	12.7
50 Remittance	1,873	46	2.5	2,149	42	2.0	1,384	100	7.2

Monthly Expenditure per Household by All Japan

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

(All Japan)

2022 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)	2.23	0.00	0.0	2.92	0.00	0.0	1.00	0.00	0.0
Number of earners per household (persons)	1.17	0.00	0.0	1.49	0.00	0.0	0.59	0.00	0.0
Age of household head (years old)	59.6	0.1	0.2	60.8	0.1	0.2	57.6	0.2	0.3
Total expenditure on goods and services ordered over the Internet	17,717	130	0.7	20,810	121	0.6	12,251	270	2.2
51 Gift items	787	16	2.0	942	13	1.4	515	36	7.0
Total expenditure for home	16,930	126	0.7	19,868	118	0.6	11,735	261	2.2
52 Foods	2,650	31	1.2	3,246	30	0.9	1,595	61	3.8
53 Beverages	680	9	1.3	812	9	1.1	447	22	4.9
54 Deliveries	537	12	2.2	586	8	1.4	451	29	6.4
55 Home electronics	1,061	29	2.7	1,237	24	1.9	749	70	9.3
56 Furniture	360	14	3.9	437	11	2.5	224	33	14.7
57 Men's clothing	508	15	3.0	556	9	1.6	424	41	9.7
58 Women's clothing	907	16	1.8	1,131	14	1.2	512	34	6.6
59 Footwear and other clothing	441	7	1.6	560	7	1.3	232	19	8.2
60 Medicines	213	6	2.8	252	4	1.6	145	14	9.7
61 Health foods	648	11	1.7	730	9	1.2	502	27	5.4
62 Cosmetics	632	9	1.4	771	7	0.9	385	22	5.7
63 Private transportation	396	19	4.8	456	12	2.6	290	50	17.2
64 Books and other reading materials	370	7	1.9	408	4	1.0	303	18	5.9
65 Software (music, video, personal computer, TV game)	463	21	4.5	420	6	1.4	538	56	10.4
66 Digital books	239	11	4.6	199	3	1.5	310	31	10.0
67 Download music, video, applications	293	13	4.4	239	5	2.1	388	37	9.5
68 Insurance	780	17	2.2	988	17	1.7	411	35	8.5
69 Accommodation services, fares, package tours(payment on the Internet)	1,758	52	3.0	2,159	33	1.5	1,051	134	12.7
70 Accommodation services, fares, package tours(payment on-site)	636	18	2.8	849	22	2.6	260	30	11.5
71 Tickets	715	18	2.5	787	12	1.5	588	49	8.3
72 Other goods and services	2,644	44	1.7	3,048	45	1.5	1,929	84	4.4

Monthly Expenditure per Household by All Japan