

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 which is based on the 2010 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
 - 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 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.

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. Questionnaires are distributed when cooperation for the survey is requested and questionnaires of the previous month are collected. 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
- Total amount paid by the household
- 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 2015 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 2015 is 64.0%.

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 (Specific goods and services)

(All Japan)

2015 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)	2.39	0.01	0.4	3.03	0.01	0.3	1.00	0.00	0.0
Number of earners per household (persons)	1.16	0.00	0.0	1.45	0.00	0.0	0.54	0.00	0.0
Age of household head (years old)	59.2	0.2	0.3	59.9	0.1	0.2	57.8	0.3	0.5
Total expenditure on specific goods and services (44 items)	66,021	764	1.2	76,390	542	0.7	43,581	2,051	4.7
01 Mobile telephone (cell phone, PHS) charges	9,118	77	0.8	11,114	94	0.8	4,802	76	1.6
02 Internet connection charges	2,772	17	0.6	3,220	18	0.6	1,804	32	1.8
03 Chests of drawers	75	5	6.7	97	7	7.2	26	7	26.9
04 Beds	204	13	6.4	250	14	5.6	103	23	22.3
05 Quilts	384	17	4.4	420	14	3.3	308	46	14.9
06 Sideboards	80	6	7.5	100	7	7.0	37	11	29.7
07 Drawing room suites	228	19	8.3	262	18	6.9	157	41	26.1
08 Musical instruments (including parts of instruments)	139	15	10.8	173	17	9.8	65	29	44.6
09 Men's suits	609	22	3.6	731	18	2.5	343	54	15.7
10 Women's one-piece dresses and suits	844	19	2.3	932	19	2.0	655	44	6.7
11 Japanese clothing (for men and women)	370	33	8.9	423	34	8.0	256	68	26.6
12 Wrist watches	252	22	8.7	267	18	6.7	219	58	26.5
13 Accessories	630	40	6.3	595	24	4.0	708	129	18.2
14 Automobiles (new)	10,280	568	5.5	11,786	358	3.0	7,019	1,466	20.9
15 Automobiles (second-hand)	3,211	366	11.4	3,688	159	4.3	2,175	1,039	47.8
16 Automotive insurance premium (compulsion)	774	16	2.1	913	15	1.6	473	37	7.8
17 Automotive insurance premium (option)	2,706	35	1.3	3,287	37	1.1	1,448	74	5.1
18 Motorized vehicles other than automobiles	244	26	10.7	281	24	8.5	161	62	38.5
19 Automotive maintenance and repairs	3,543	58	1.6	4,235	54	1.3	2,043	132	6.5
20 House-related equipping/ construction/ repair costs	7,225	282	3.9	8,477	277	3.3	4,523	665	14.7
21 Water supply and drainage construction costs	1,214	66	5.4	1,306	57	4.4	1,017	194	19.1
22 Gardens, trees and plants tending costs	586	23	3.9	574	18	3.1	609	61	10.0
23 Refrigerators	635	22	3.5	758	26	3.4	369	49	13.3
24 Vacuum cleaners	311	8	2.6	373	9	2.4	175	16	9.1
25 Washing machines	451	18	4.0	550	18	3.3	237	38	16.0
26 Air conditioners	937	35	3.7	1,105	36	3.3	574	76	13.2
27 Personal computers (excluding peripherals and softwares)	758	35	4.6	847	22	2.6	564	99	17.6
28 Mobile telephones unit prices (cell phone, PHS)	647	25	3.9	749	21	2.8	427	71	16.6
29 TV	495	22	4.4	577	19	3.3	317	55	17.4
30 Video recorders (DVD or Blu-ray recorder, player, etc.)	176	9	5.1	187	6	3.2	152	24	15.8
31 Video game hardwares (excluding softwares)	75	5	6.7	87	4	4.6	48	14	29.2
32 Cameras (excluding disposable cameras)	180	14	7.8	188	9	4.8	163	42	25.8
33 Video cameras	47	5	10.6	60	4	6.7	20	11	55.0
34 Delivery fees	97	11	11.3	143	16	11.2	-	0	-
35 Hospital charges (excluding delivery)	1,637	44	2.7	2,026	42	2.1	793	106	13.4
36 Lesson fees, driving school	379	18	4.7	551	26	4.7	6	1	16.7
37 Airplane fares	875	49	5.6	909	27	3.0	803	142	17.7
38 Accommodation services	1,919	30	1.6	2,333	32	1.4	1,026	61	5.9
39 Package tour costs (domestic)	2,801	54	1.9	3,257	51	1.6	1,814	132	7.3
40 Package tour costs (overseas)	1,536	69	4.5	1,858	84	4.5	838	126	15.0
41 Rental fees for sports facilities	943	16	1.7	1,115	17	1.5	571	27	4.7
42 Wedding ceremony and reception costs	714	76	10.6	963	101	10.5	175	117	66.9
43 Funeral service costs	3,106	187	6.0	2,902	137	4.7	3,542	505	14.3
44 Religion-related costs	1,816	82	4.5	1,719	69	4.0	2,021	203	10.0
(Reference) Households filling in total expenditure									
Total expenditure	276,163	993	0.4	317,192	958	0.3	186,540	1,978	1.1
Foods	71,312	242	0.3	82,709	255	0.3	46,438	265	0.6
Remittance and Money gifts	14,266	171	1.2	15,495	163	1.1	11,582	402	3.5

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

Table Standard error and Standard error ratio (Goods and Services Ordered over the Internet)(Continued)

(All Japan)

2015 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)	2.39	0.01	0.4	3.03	0.01	0.3	1.00	0.00	0.0
Number of earners per household (persons)	1.16	0.00	0.0	1.45	0.00	0.0	0.53	0.00	0.0
Age of household head (years old)	59.2	0.2	0.3	59.8	0.1	0.2	57.8	0.3	0.5
Total expenditure on goods and services ordered over the Internet	7,742	121	1.6	8,643	97	1.1	5,774	273	4.7
50 Gift items	348	9	2.6	401	10	2.5	232	23	9.9
For gift	7,394	118	1.6	8,242	93	1.1	5,543	272	4.9
51 Foods	773	17	2.2	955	18	1.9	377	34	9.0
52 Beverages	198	6	3.0	229	5	2.2	129	14	10.9
53 Deliveries	47	2	4.3	52	2	3.8	37	6	16.2
54 Home electronics	646	32	5.0	674	19	2.8	587	92	15.7
55 Furnitures	169	8	4.7	198	7	3.5	107	23	21.5
56 Men's clothings	182	10	5.5	191	6	3.1	163	27	16.6
57 Women's clothings	421	15	3.6	466	10	2.1	321	38	11.8
58 Footwears and other clothings	217	7	3.2	265	6	2.3	112	14	12.5
59 Medicines	75	3	4.0	88	3	3.4	45	6	13.3
60 Health foods	275	7	2.5	302	5	1.7	218	17	7.8
61 Cosmetics	293	6	2.0	355	6	1.7	159	12	7.5
62 Private transportation	138	8	5.8	166	8	4.8	78	23	29.5
63 Books and other reading materials	208	7	3.4	216	4	1.9	191	18	9.4
64 Software (music, video, personal computer, TV)	296	14	4.7	252	5	2.0	393	42	10.7
65 Digital books	48	4	8.3	35	2	5.7	77	13	16.9
66 Download music, video, applications	109	25	22.9	54	3	5.6	232	77	33.2
67 Insurance	339	12	3.5	406	15	3.7	193	25	13.0
68 Accommodation services, fares, package tours (payment on the Internet)	1,068	36	3.4	1,255	39	3.1	658	82	12.5
69 Accommodation services, fares, package tours (payment on-site)	528	24	4.5	630	24	3.8	306	53	17.3
70 Tickets	351	40	11.4	332	8	2.4	391	111	28.4
71 Other goods and services	1,013	28	2.8	1,124	21	1.9	771	72	9.3

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