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A NOTE ON MONETARY VALUATION OF UNPAID WORK IN JAPAN

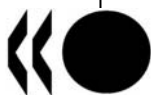
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A Note on Monetary Valuation of Unpaid Work in Japan

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This note is to introduce Japan's effort to assess the monetary value of unpaid work. In Japan, strong gender bias in housework, child care and elderly care/nursing has been regarded as a serious problem. The need to measure the economic value of these activities and their burden on women in a form that allows comparison with other economic indicators is particularly strong.

In 2009, the Department of National Accounts at the ESRI of the Cabinet Office, Japan, published a report entitled "Monetary Valuation of Unpaid Work", that presented the results of monetary valuation of unpaid work in Japan as of 1981, 1986, 1991, 1996, 2001, and 2006. This report was the third publication on this topic. The first report was published in 1997. Before its compilation, meetings of the Advisory Committee on Unpaid Work (chaired by Kimio Uno, Professor, Keio University) were held in 1996 to 1997 in order to determine the scope of unpaid work, and the methods of its valuation.

1. Time use survey in Japan

We used the "input method." This method counts hours worked in unpaid productive activities and assigns a price to it, using a corresponding wage rate. As a result, the monetary valuation of unpaid work heavily relies on the time use survey. Our monetary valuation mainly uses the data collected in the "Survey on Time Use and Leisure Activities (hereafter referred to as STULA)" conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications. The STULA aims to obtain comprehensive data on daily patterns of time allocation and leisure activities. The STULA was first administered in 1976, and has been carried out every five years since then. The seventh (latest) survey was conducted in 2006. This note explains mainly the organization of the seventh survey.

The STULA covers those items.

- * Time use on a single day
- * Participation in leisure activities during the past year
- * Frequency of participation in leisure activities during the past year

The survey also contains a questionnaire on attributes of individuals and households.

In order to measure time use on a single day, the STULA uses two types of questionnaires: Questionnaire A adopts a pre-coding system (i.e. multiple choice style), and Questionnaire B uses diary method or after-coding system, which is more comparable to Harmonized European Time Use Surveys, HETUS, to elucidate time use in more detail. Questionnaire A is used in around 6,350 primary sampling districts, while Questionnaire B is employed in the remaining 350 districts.

The sample is selected through a two-stage stratified sampling method, with the primary sampling unit being the enumeration district (ED) of the Population Census, and the secondary sampling unit being households. At the first stage, the whole country is divided into the regions of 47 prefectures, and a total of 6,700 sample EDs are selected in those regions. In the selected EDs, around 80,000 households are selected from lists of households prepared by enumerators before the survey. All persons aged 10 and over in the sample households are asked to respond to the survey. About 76,000 households were surveyed by Questionnaire A, and about 4,000 households by Questionnaire B. The number of respondents totals around 200,000. Non-Japanese citizens living in Japan are included in the survey.

The reference dates are assigned as follows. For the 2006 survey, the reference date for basic characteristics of persons and households was October 20th. For data on time use, reference dates are selected from several days around the reference date for the basic characteristics, because the pattern of time use varies according to the day of the week. For this purpose, the sample of the 2006 survey was divided into several sub-samples, and the respondents for each sub-sample were asked to report their time use on two consecutive days between October 14th and 22nd. Questions on leisure activities ask respondent's experiences during the past year as of October 20th.

Another major time use survey is the "National Time Use Surveys" (NTUS) by the Japan Broadcasting Corporation (NHK). While the STULA is a large-scale sample

survey which offers detailed data by region and personal attribute, the NTUS is based on a smaller sample, but offers longer time-series data as well as detailed data on secondary activities.

2. Scope and method of monetary valuation of unpaid work

The monetary valuation is mainly based on the time use data collected by the STULA and wage rates that correspond to the type of unpaid works collected by the Basic Survey on Wage Structure," Ministry of Health Labor and Welfare.

(1) Scope of unpaid work

"Unpaid work" defined here covers only unpaid work in which the service provider and the service beneficiary are separable (i.e., the service can be provided by a third party) and the service can be provided in the market. Namely, the "third party criteria" is applied.

The valuation uses the following classification of unpaid work, based on the classifications used in the STULA¹.

1) Housework (cooking, cleaning, laundry, sewing and knitting, miscellaneous family affairs)

Miscellaneous family affairs included in "housework" of the STULA are drying of bedding, care of family members, keeping of household accounts, affairs related to banks, city office, etc., car care, repair of furniture, etc.

2) Elderly/nursing care,

In the STULA," elderly/nursing care are defined as "support given to a family member or a relative in another household for his/her daily life, such as bathing, going to the toilet, moving around the house, taking meals, etc." Unpaid elderly care and nursing care for people other than family members are regarded as "volunteer work."

3) Child care

The STULA defines child care as "changing of diapers for a baby or a small child, care of a baby or a small child, attending to children, help with children's homework,

¹ Up to 1996, the STULA did not subdivide housework. Thus, hours used for respective types of housework up to 1996, although I do not cite the results in this note, are calculated in the proportions given by the breakdown of "housework" (cooking, cleaning, laundry, sewing and knitting, miscellaneous family affairs) of the NTUS. Since 2001, the proportions obtained through the after-coding system's questionnaire are used for subdivision. As a result, there exists a gap between categories of housework up to 1996 and after 2001.

visiting a class in progress, keeping company during playtime, and watching school sport activities." It includes educational activities for children but taking care of school children such as cooking for children falls under "housework."

- 4) Shopping
- 5) Volunteer and social activities

Volunteering is defined as act of providing one's own efforts, time, knowledge or skill for society or community without receiving remuneration for the work. As examples of volunteer work, the STULA gives "cleaning of roads and parks in local communities, taking care of children's groups, activities in parent-teacher association, visiting people in hospital or other facilities, blood donations, procurements of relief goods for disaster-stricken areas." In pre-coding systems data, women's or youth activities, labor activities, political activities, and religious activities are included in this category.

(2) The method of monetary valuation

The monetary value of unpaid work was simply assessed by the following formula:

$$\text{Value of unpaid work} = \text{per capita hours of unpaid work} * \text{hourly wage} * \text{population}$$

This equation clearly suggests that the monetary value of unpaid work can differ significantly depending on what kind of wage we use. In this report, the monetary value of unpaid work was computed using three different types of wages in accordance with the following two methods:

- a. Opportunity-cost-method
- b. Replacement-cost-method

The replacement-cost-method is divided into two approaches.

- b-1 Specialist-approach
- b-2 Generalist-approach

a. Opportunity Cost method (hereafter referred to as the "OC method")

This method performs the valuation in terms of wages foregone (lost profit) as a result of opting not to offer services in the market. The average wages per hour for corresponding sexes, age groups and prefectures are used for valuation. One problem with this method is that the valuation varies according to who engaged in the unpaid

work rather than what types of labor were used.

Table 1 shows the national average wages by sex and age in 2001 and 2006. Men's wages reach their peak at the age of 50-54, while women's wages reach their peak at the age of 35-39. While the wage difference between men and women is relatively small when they are young, the difference becomes very large during the middle ages.

b. Replacement Cost method

This method assesses unpaid work based upon the wage paid to a person who produces similar services in the market. There are two approaches in this method.

b-1 Replacement Cost method-Specialist approach (hereafter referred to as the "RC-S method")

This method assesses unpaid work based upon wages paid to professionals engaged in the production of similar services in the market. The occupations corresponding to different types of unpaid work used under the RC-S method are shown in the table 2. RC-S method is sensitive to disparities in productivity between those who actually engage in unpaid work and the corresponding professionals, which might arise from differences in economies of scale or the capital equipment ratios.

b-2 Replacement Cost method-Generalist approach (hereafter referred to as the "RC-G method")

This method assesses unpaid work based upon wages of housekeepers. In 1996, "Survey of Wages of Home Workers" was conducted by the Clinical Nursing and Housekeeping Association of Japan. The national average hourly wage of housekeepers was 880 yen. The figure for 2001 and 2006 were estimated based on the assumption that the wage of housekeepers increased as much as that of similar occupations (namely miscellaneous living-related jobs and personal services). Table 3 shows the wages used for valuations.

One problem pointed out with this method is that housekeepers do not perform all types of unpaid work. In addition, this method may not be appropriate for assessing volunteering, because housekeeping is not corresponding to the volunteer work. ..

3. Valuation results using pre-coding system's data

Because the difference in the results between the pre-coding system and after-coding system is wide, valuations based on data from these two types questionnaire conducted

separately. Valuation results using pre-coding system's data are as follows:

(1) Total assessed value of unpaid work

In 2006, the total assessed value of unpaid work in Japan amounted to from around 90 trillion yen to 132 trillion yen², accounting for about 18% to 26% of GDP (Table 4). The compensation of employees, which can be regarded as the assessed value of paid work, was 263,727 billion yen in 1996. This means that the assessed value of unpaid work constitutes around 34% to 50% of paid work.

(2) Assessed value of unpaid work by gender

The total assessed value of unpaid work by gender reveals that women account for around 80% to 85% of the total unpaid work in 2006, confirming that the majority of unpaid work is done by women in Japan (Table 5). However, table 5 also shows that the share of unpaid work done by men is gradually rising. This can also be confirmed by the per capita data in table 6.

Table 7 shows the assessed value of unpaid work by the type of activity and gender, using OC method. Even in 2006, except volunteer work, men's shares in unpaid work were very limited in Japan, suggesting the existence of heavy burden on women to take care of housework, elderly care and child care.

The monetary valuation of per capita unpaid work by age and gender (Table 8) reveals women's unpaid work value arrives at its maximum at the age 35-39, while men's unpaid work value continue to rise until they become older than 80 years old on average.

Table 9 ③ shows that the value of unpaid work reaches more than 90% of paid work for women, while it reaches less than 10% for men on average.

4. Valuation results using after-coding system's (diary methods) data

The monetary valuation using after-coding system's data turns out to be much larger than the one with the pre-coding system's data (Table 10).

The discrepancies might come from the following differences between the two systems:

² This is equivalent to 1.1 trillion USD, using the average exchange rate in 2006, \$1=¥116.31)

- In the pre-coding system, assessed value does not include travel time during each activity, while in the after-coding system the value includes travel time.
- In the pre-coding system, volunteer activities include all the activities related to the social participation, while in the after-coding system, only volunteer activities are included.
- In the RC-S method, after-coding system uses more detailed classification, resulting in different wages to be applied.

Table 11 shows detailed results of valuation that are more suitable for international comparison, in which HETUS is the de-facto standard. Travel related to housework is valued as large as 11.3 trillion yen with the OC method. Transporting children is valued as 2.9 trillion yen, and travel related to volunteer work is 0.6 trillion yen. In total, travel is valued as large as 14.8 billion yen, or 8.4% of entire unpaid work value.

As for wages to be applied, because commuting time is available in the after-coding system, wages can be adjusted to reflect commuting time necessary for paid work. The results shown on table 11 reveal that the wages will decline by about 9% and the size of the unpaid work diminish from 176.1 trillion yen to 159.7 trillion yen using OC method. On the other hand, when wages for over-time work are counted, the average wages increase and thus, the valuation of unpaid work increases from 176.1 trillion yen to 177.8 trillion yen, or increases by 1%.

Table 12 shows results of international comparison. Japan's value of unpaid work is smaller than those of European countries, USA, and NZ reflecting smaller length of time devoted to unpaid work by men and relatively low wages of women, who bear most of the burden of housework.

5. Comments and conclusion

When the first report was published, several criticisms towards valuation methods were raised among gender researchers. The most severe one was regarding the wages applied for valuation for women's work. They insist that the wages used for women's unpaid work might be too small compared with wages used for men, because the wage gap itself is the result of gender discriminations and using these data rather confirms problems than improves situations.

Despite several shortcomings in the valuation methods, the three reports of the monetary valuation of unpaid work were successful in galvanizing discussions among people on how to evaluate women's role in the society and economy through unpaid work in Japan.

The Council for Gender Equality, one of the important national councils, issued the policy report on the third Basic Plan for Gender Equality last July. In the report, the council recommended that the research should be conducted on the measurement of the unpaid work, such as housework, child care, elderly care, nursing, and volunteer activities, as well as economic and social assessments of the child care and elderly care/nursing. Based on the report, currently, Japanese government is drafting the next Basic Plan, which will be decided by the Cabinet towards the end of this year.

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Web site of STULA: <http://www.stat.go.jp/english/data/shakai/index.htm>

Table 1: Wage per hour used for the OC method valuation

(unit: yen)

Age	2001		2006	
	Women	Men	Women	Men
15-19	915	990	916	1018
20-24	1105	1196	1117	1193
25-29	1279	1460	1272	1439
30-34	1452	1772	1394	1709
35-39	1523	2101	1509	2049
40-44	1473	2320	1504	2350
45-49	1460	2465	1465	2479
50-54	1421	2545	1413	2515
55-59	1363	2417	1370	2355
60-64	1212	1812	1216	1725
65-	1251	1680	1214	1526

(Statistics used: "Basic Survey on Wage Structure," Ministry of Health Labor and Welfare. Average wage was calculated as : the wage on monthly scheduled work/scheduled hours of work.).

Table 2: Occupations corresponding to types of unpaid work and their average wages

(unit: yen)

Type of activities		Corresponding occupations	Wages	
			2001	2006
Housework	Cooking	average of chef and apprentice chef	1,247	1,167
	Cleaning	Building cleaning worker	998	976
	Laundry	Laundry persons	1,133	1,026
	Sewing and knitting	Sewing machine operator	879	887
	miscellaneous family affairs	Janitor	1,341	1,198
Elderly/nursing care		Average of nurse assistance and home-helper	1,139	1,139
Child care		Nursery teacher	1,278	1,235
Shopping		Janitor	1,341	1,198
Volunteer and social activities		See note 1 below.	1,872	1,823

Note1: Since there is no occupation that corresponds to "volunteer work," the weighted average of wages in the "cooperatives," "medical and health care," "social insurance and social welfare," "school education," "other education and education supporting services," and "political, economic and cultural institutions" was used.

(Statistics used: "Basic Survey on Wage Structure," MHLW).

Table 3: Hourly wage used for RC-G method valuations (unit: yen)

Year	Hourly wage
1996	880
2001	965
2006	973

Table 4: Total assessed value of unpaid work and percentage of GDP (unit: billion yen)

Year	Nominal GDP	OC		RC-S		RC-G	
		Total Value	percent of GDP	Total Value	Percent of GDP	Total Value	percent of GDP
1981	259,034	53,264	20.6	52,412	20.2	37,339	14.4
1986	338,674	71,828	21.2	67,750	20.0	49,037	14.5
1991	468,234	98,858	21.1	90,983	19.4	66,728	14.3
1996	504,262	116,115	23.0	105,733	21.0	76,069	15.1
2001	497,720	128,815	25.9	110,777	22.3	86,946	17.5
2006	507,365	131,869	26.0	107,483	21.2	90,629	17.9

Table 5: Assessed value of unpaid work by gender (unit: billion yen)

	OC		RC-S		RC-G	
	Women	Men	Women	Men	Women	Men
1981	48,182	5,082	48,906	3,505	34,945	2,395
1986	63,678	8,150	62,304	5,446	45,192	3,844
1991	84,330	14,528	80,858	10,125	59,684	7,044
1996	98,104	18,011	92,349	13,384	67,396	8,673
2001	106,111	22,704	94,964	15,812	75,343	11,603
2006	106,120	25,749	89,997	17,486	76,805	13,824
(component ratio)						
1981	90.5	9.5	93.3	6.7	93.6	6.4
1986	88.7	11.3	92.0	8.0	92.2	7.8
1991	85.3	14.7	88.9	11.1	89.4	10.6
1996	84.5	15.5	87.3	12.7	88.6	11.4
2001	82.4	17.6	85.7	14.3	86.7	13.3
2006	80.5	19.5	83.7	16.3	84.7	15.3

Table 6. Per capita unpaid work monetary valuation and unpaid working hour(yearly)
unit: thousand yen, hours

	Assessed value						Time used	
	OC		RC-S		RC-G		Women	Men
	Women	Men	Women	Men	Women	Men		
1981	1,038	116	1,053	80	753	55	1,464	106
1986	1,287	174	1,259	116	914	82	1,471	132
1991	1,607	292	1,541	204	1,138	142	1,440	179
1996	1,798	349	1,692	259	1,235	168	1,403	191
2001	1,890	429	1,692	299	1,342	219	1,390	227
2006	1,864	482	1,581	327	1,349	259	1,386	266

Table 7: Assessed value of unpaid work by type of activity and gender in 2006
(OC method)

(unit: billion yen, percentage)

Type of activities	Assessed value			Component ratio		
	Total	Women	Men	Total	Women's share	Men's share
Cooking	47,756	42,341	5,415	36.2	88.7	11.3
Cleaning	19,492	16,713	2,779	14.8	85.7	14.3
Laundry	11,677	10,991	686	8.9	94.1	5.9
Sewing and knitting	2,838	2,717	121	2.2	95.7	4.3
Miscellaneous family affairs	3,355	2,176	1,179	2.5	64.8	35.2
Housework total	85,118	74,937	10,181	64.5	88.0	12.0
Elderly/nursing care	3,323	2,289	1,034	2.5	68.9	31.1
Child care	13,788	11,039	2,749	10.5	80.1	19.9
Shopping	24,647	15,734	8,913	18.7	63.8	36.2
Total other than volunteer	126,876	103,999	22,877	96.2	82.0	18.0
Volunteer and social activities	4,993	2,121	2,872	3.8	42.5	57.5
Total	131,869	106,120	25,749	100.0	80.5	19.5

Table 8: Assessed value of unpaid work per capita by age, marital status and gender in 2006 (OC method)

(unit: thousand yen)

	Women				Men			
	Average	Married		Others	Average	Married		Others
		Working	Jobless			Working	Jobless	
Total(age over 14)	1,864	2,128	3,002	851	482	467	872	347
15~19	167	0	1,659	164	83	0	0	83
20~24	527	1,663	3,237	344	183	320	0	176
25~29	1,317	1,921	3,425	470	259	422	602	192
30~34	2,376	2,256	4,155	730	431	550	1,470	257
35~39	2,776	2,625	4,293	1,089	535	583	1,347	407
40~44	2,660	2,525	4,054	1,276	513	527	1,574	434
45~49	2,507	2,327	3,728	1,437	523	487	1,261	636
50~54	2,317	2,096	3,370	1,457	512	450	1,315	764
55~59	2,192	1,850	3,029	1,588	527	413	1,332	909
60~64	2,000	1,713	2,479	1,469	564	362	1,006	815
65~69	1,992	1,617	2,353	1,621	660	422	866	961
70~74	1,881	1,666	2,203	1,545	740	389	877	1,181
75~79	1,641	1,544	2,059	1,326	750	451	830	896
80~84	1,259	1,237	1,618	1,126	709	393	744	861
85-	621	783	1,186	552	473	323	534	404

Table 9 Paid work and unpaid work; comparison (OC method)

① Paid work value by age, sex and marital status (unit: billion yen)

	Women			Men		
	married	unmarried	separated/ divorced	married	unmarried	separated/ divorced
Total	40,414	22,266	9,106	150,950	42,770	8,212
15~19	0	774	0	0	1,087	0
20~24	224	6,142	36	636	7,111	11
25~29	1,538	6,270	187	4,885	9,697	136
30~34	3,282	3,957	576	13,391	8,056	403
35~39	4,768	2,191	1,135	18,995	6,024	741
40~44	5,853	1,071	997	20,997	4,179	895
45~49	5,848	626	1,102	21,828	2,667	1,254
50~54	6,337	498	1,146	23,767	1,942	1,429
55~59	6,723	458	1,419	26,334	1,669	1,598
60~64	2,624	156	867	9,897	297	735
65~69	1,755	59	687	5,216	40	475
70~74	927	33	402	3,016	0	221
75~79	404	31	313	1,330	0	158
80~84	117	0	159	508	0	87
85-	16	0	78	148	0	69

② Unpaid work value by age, sex and marital status (unit: billion yen)

	Women			Men		
	married	unmarried	separated/ divorced	married	unmarried	separated/ divorced
Total	37,157	3,669	4,622	12,965	2,691	975
15~19	0	180	0	0	53	0
20~24	188	721	31	59	430	1
25~29	1,431	799	81	499	448	10
30~34	3,363	631	302	1,529	400	23
35~39	5,351	407	499	1,885	340	48
40~44	5,846	221	489	1,639	250	64
45~49	5,353	208	530	1,516	199	127
50~54	5,277	169	515	1,571	218	144
55~59	5,042	202	640	1,799	266	156
60~64	2,431	62	490	934	75	115
65~69	1,470	33	421	751	14	104
70~74	904	21	296	419	0	99
75~79	396	14	192	248	0	51
80~84	96	0	107	87	0	27
85-	8	0	31	27	0	7

③ Ratio of unpaid work value over paid work (paid work =100)

	Women			Men		
	married	unmarried	separated/ divorced	married	unmarried	separated/ divorced
Total	91.9	16.5	50.8	8.6	6.3	11.9
15~19	-	23.3	-	-	4.9	-
20~24	84.2	11.7	85.8	9.3	6.0	6.4
25~29	93.0	12.7	43.2	10.2	4.6	7.1
30~34	102.5	16.0	52.3	11.4	5.0	5.7
35~39	112.2	18.6	43.9	9.9	5.6	6.4
40~44	99.9	20.6	49.0	7.8	6.0	7.1
45~49	91.5	33.2	48.1	6.9	7.4	10.1
50~54	83.3	34.0	44.9	6.6	11.2	10.1
55~59	75.0	44.2	45.1	6.8	15.9	9.8
60~64	92.7	40.0	56.5	9.4	25.4	15.7
65~69	83.8	56.0	61.2	14.4	33.6	21.8
70~74	97.6	62.5	73.6	13.9	-	44.6
75~79	98.1	43.5	61.3	18.7	-	-
80~84	82.2	-	-	17.2	-	-
85-	49.3	-	-	18.5	-	-

Table 10. Monetary valuation using both data sets in 2006

(unit: trillion yen.%)

	Pre-coding	Percent of GDP	After-coding	Percent of GDP
OC method	131.9	26.0	176.1	34.7
RC-S method	107.5	21.2	140.5	27.7
RC-G method	90.6	17.9	118.1	23.3

Table 11. Monetary valuation of unpaid work using after-coding system's data, 2006

(unit: billion yen)

	OC			RC-S			RC-G			OC (wage rate including overtime work)			OC (wage rate including time for commuting)		
	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men
Unpaid work	176,058	127,818	48,239	140,519	108,573	31,947	118,126	92,755	25,371	177,799	129,433	48,365	159,638	116,559	43,079
Housework	109,903	88,503	21,400	85,598	72,340	13,258	75,954	64,447	11,507	110,938	89,521	21,417	100,171	80,972	19,200
Management of meals	50,515	44,825	5,690	42,690	39,032	3,658	35,588	32,539	3,049	51,061	45,359	5,702	46,044	40,950	5,094
Making sweets	75	75	0	61	61	0	54	54	0	76	76	0	67	67	0
Gardening	10,616	4,954	5,661	8,587	4,691	3,896	6,977	3,812	3,165	10,633	4,980	5,654	9,758	4,642	5,117
Household upkeep	25,168	19,379	5,789	17,273	14,144	3,129	17,214	14,096	3,118	25,411	19,611	5,800	22,883	17,701	5,182
Care of clothing	16,654	14,996	1,658	11,709	10,859	850	11,686	10,837	849	16,834	15,173	1,661	15,184	13,702	1,482
Making clothing	954	954	0	665	665	0	730	730	0	961	961	0	882	882	0
Building and repairing	699	126	574	555	132	423	399	95	304	699	127	573	631	117	514
Vehicle maintenance	564	40	524	436	44	392	294	29	264	567	41	526	500	36	464
Household management	1,586	887	700	1,209	771	438	983	627	356	1,596	897	699	1,434	809	626
Care of a family member excluding a baby and a little child	2,185	1,432	753	1,662	1,228	434	1,420	1,049	371	2,200	1,447	753	1,986	1,311	675
Help to a family member	846	832	14	718	709	9	583	576	8	859	845	14	764	752	13
Other housework	40	4	36	32	4	28	26	3	23	40	4	36	36	4	32
Child care	15,368	11,394	3,974	12,526	10,034	2,491	9,927	7,953	1,975	15,605	11,604	4,000	13,741	10,216	3,525
Care of a baby and a little child	164	148	16	137	128	9	108	101	7	167	151	17	147	132	15
Physical care or supervision of a baby and a little child	4,854	4,063	791	4,148	3,644	505	3,268	2,870	398	4,940	4,142	798	4,336	3,635	701
Reading, playing and talking with a baby and a little child	5,305	3,325	1,980	4,256	2,997	1,260	3,353	2,361	992	5,382	3,387	1,995	4,739	2,987	1,752
Accompanying a child	340	307	33	283	265	19	223	209	15	346	313	33	305	276	29
Teaching the child	1,792	1,383	409	1,421	1,179	242	1,120	929	191	1,817	1,407	410	1,606	1,241	365
Transporting a child	2,912	2,168	744	2,279	1,823	457	1,855	1,484	372	2,953	2,205	747	2,609	1,946	664
Shopping and using services	25,761	15,773	9,988	20,604	14,189	6,415	16,740	11,528	5,212	26,035	15,995	10,041	23,214	14,329	8,886
Shopping	24,616	15,181	9,434	19,730	13,663	6,067	16,030	11,101	4,929	24,883	15,396	9,487	22,179	13,787	8,391
Administrative services	340	177	164	267	160	107	217	130	87	342	179	163	309	163	147
Commercial services	805	415	390	607	366	241	493	297	196	811	420	391	726	378	348
Travel related to housework	11,300	6,676	4,624	8,939	5,998	2,942	7,263	4,873	2,390	11,410	6,768	4,642	10,186	6,068	4,117
Volunteer activity related	4,954	2,126	2,829	5,654	2,848	2,806	3,018	1,520	1,498	4,992	2,155	2,837	4,449	1,928	2,521
Volunteer activities	4,403	1,944	2,459	5,017	2,594	2,423	2,678	1,384	1,293	4,436	1,971	2,465	3,957	1,765	2,193
Travel related to volunteer activities	551	182	370	638	254	383	340	136	205	556	184	371	492	164	328
Unpaid work (additional data for international comparison)	8,771	3,347	5,425	7,198	3,164	4,034	5,224	2,434	2,790	8,818	3,390	5,429	7,876	3,045	4,831
Making sweets as hobbies	16	16	0	13	13	0	12	12	0	17	17	0	15	15	0
Productive hobbies	281	65	217	230	68	162	153	45	108	282	65	217	252	58	193
Gardening as hobbies	984	467	517	933	517	416	654	363	292	989	473	516	891	425	466
Caring for pets	917	345	572	845	561	284	593	393	199	924	552	372	829	498	331
Walking the dog	2,640	1,121	1,518	2,279	1,150	1,129	1,598	807	792	2,653	1,136	1,517	2,371	1,017	1,353
Making clothing as hobbies	760	760	0	483	483	0	553	553	0	767	767	0	698	698	0
Productive sports	2,349	206	2,143	1,821	216	1,605	1,212	144	1,068	2,356	210	2,146	2,088	185	1,903
Travel related to housework as hobbies	824	166	658	595	156	439	449	117	331	830	170	661	733	149	584
Unpaid work (except data for international comparison)	167,287	124,472	42,815	133,321	105,409	27,912	112,902	90,321	22,582	168,980	126,044	42,937	151,762	113,513	38,249
(reference) Social activities	1,383	516	867	1,524	720	804	814	385	429	1,388	520	868	1,251	480	771

Table 12. International comparison based on the questionnaire survey to the statistical offices.

Country	Year	Time used for unpaid work	Unpaid work/GDP
Japan	2006	Men, married, working	0.64h
		Men married, jobless	1.49h
		Men, others	0.56h
		Women married working	4.17h
		Women, married, jobless	6.15h
		Women, others	1.84h
Korea	2004	Men	0.47h
		Women	3.41h
		housewife with job	3.22h
		housewife without job	5.49h
USA	2004	Men, working	2.14h
		Men, jobless	2.71h
		Women, working	3.57h
		Women, jobless	4.71h
New Zealand	1999	Men	2.90h
		Women	4.93h
Germany	2001	Per capita	3.60h
Finland	2001	Per capita	3.16h

NB.1. Korea's data comes from Tae Hee Kwon(2006), " The Currency Evaluation of the Women's Unpaid Work in Korea, 2004". In RC-GI method, weighted average of the wages by activities is used, while in RC-GII, weighted average of wages of housekeepers, cleaners and laundry women is used.

NB.2 Germany and Finland follows HETUS. So valuation using after-coding system is more appropriate for comparison with Japan.