

Incorporating Time into the National Transfer Account

By Mathana Phananimai

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Background of the paper

During the course of estimating the National Transfer Account which traced monetary flows between persons of different ages through different institutions and methods, several workshops and meetings were organized. One of the issues repeatedly raised at the meetings was the importance of time transfer within household. Similar to monetary transfer that income earned by one person can benefit another person, time used by one person can also benefit another person. Since time is a valuable resource, merely looking at monetary transfers may not give the whole picture of intergenerational transfers. This paper therefore tries to incorporate time transfer into the National Transfer Account by exploiting the benefit of the Time Use Survey available in Thailand. The organization of the paper is as follows: the first section gives a brief description of the data and patterns of time use in Thailand. The second section describes a criterion in defining transferable time, explores the age profiles of outflow, inflow and net transfer of time. The third section presents a method of time evaluation and the estimated value of time transfer is compared to the value of monetary transfer estimated in the NTA.

1. A brief description of the data

This study uses the data from the first Time Use Survey conducted by the National Statistical Office in August 2001¹. Samples consisted of persons aged 10 years old and above who lived in 26,058 sample households. During the interview, enumerators asked and recorded the starting and ending time of all activities performed by the samples during the past 24 hours. Activities were classified by 2-digit coding, according to the International Classification of Activities for Time Use Statistics. They were broadly grouped into 10 categories as follows:

- 1) Employment for establishments
- 2) Primary production activities not for establishments
- 3) Services for income and other production of goods not for establishments
- 4) Household maintenance, management and shopping for own household
- 5) Care for children, the sick, elderly and disabled for own household
- 6) Community services and help to other households
- 7) Learning
- 8) Social, cultural and recreational activities
- 9) Mass media use
- 10) Personal care and self-maintenance

¹ There were two Time Use Surveys in Thailand, conducted by the National Statistical Office in 2001 and 2004. At the time of writing this paper, the 2004 data were not accessible, hence the 2001 data was used.

The first 3 categories are time use for production that earns income directly. The work status can be employee as in category 1 or self employed as in categories 2 and 3. Time use in these 3 categories is often referred to as “contracted time”. Categories 4-6 are also time use for production, but mainly for own household or own community consumption; they are referred to as “committed time”. Category seventh is time use for investment in human capital. Categories 8-9 are time use for acquiring utility or pleasure, and are referred to as “free time”. Lastly, time use for personal care and self-maintenance is referred to as “own time”. It includes sleeping, eating and drinking time, and time use for personal hygiene and health, etc.

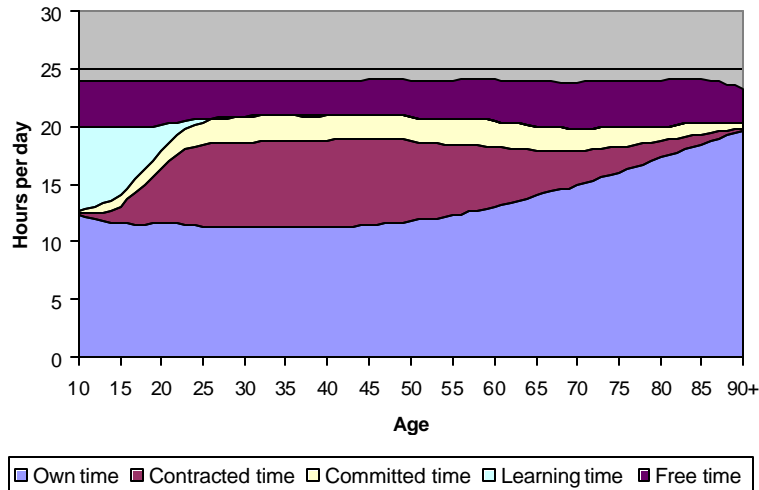
Table 1 shows the average hours used in each main activity classified by age group. Own time for self maintenance was higher in children and adolescents, lower in adults and increased rapidly among the elderly. The age profile of contracted time had an inverted U-shape which reached the highest level during ages 35-49. The age profile of committed time also had an inverted U-shape, albeit more shallow, and reached the highest level during ages 50-64. Time use for learning was highest during ages 10-19 and declined rapidly thereafter. Free time was high in teenagers, declined in prime working aged adults and increased again in young elderly (ages 60-80) before dropping again in old elderly. It is anticipated that young elderly can afford more free time because they might still be in good health and free from most household responsibilities; but health problem among the old elderly might have prevented them from having much free time.

Table 1 Average Time Use, Classified by Main Activities and Age Group

	(Hours per day)						
	Average	10-19	20-34	35-49	50-64	65-79	80+
Own time	11.93	11.75	11.40	11.36	12.48	15.07	18.30
(0) Personal care and self-maintenance	11.93	11.75	11.40	11.36	12.48	15.07	18.30
Contracted time	5.55	1.58	6.99	7.51	5.86	2.85	0.87
(1) Employment for establishments	1.67	0.44	2.75	2.14	0.95	0.11	0.05
(2) Primary production not for establishments	2.38	0.71	2.52	3.28	3.22	1.64	0.41
(3) Other home production	1.50	0.43	1.73	2.09	1.70	1.09	0.41
Committed time	1.78	0.85	2.00	2.02	2.15	1.91	0.88
(4) Household maintenance	1.35	0.74	1.37	1.62	1.68	1.49	0.59
(5) Care for children, the sick, elderly	0.42	0.11	0.63	0.40	0.47	0.43	0.28
(6) Community services	0.03	0.01	0.02	0.04	0.05	0.08	0.06
Learning time	1.27	5.75	0.34	0.02	0.00	0.01	0.00
(7) Learning	1.27	5.75	0.34	0.02	0.00	0.01	0.00
Free time	3.45	4.06	3.25	3.05	3.45	4.08	3.88
(8) Social, cultural and recreational activities	0.89	1.31	0.71	0.66	0.89	1.35	1.56
(9) Mass media use	2.55	2.75	2.54	2.39	2.56	2.73	2.32

The age profiles of time allocation by main activities is shown in Figure 1. More than 50% of a person's whole life time was used for personal care and self maintenance. An average working aged adult used just slightly less than one half of the time for personal care and self-maintenance, about 30% for income earning, 12% for free time and the remaining of about 8% for other household members. Pre-adults mainly used their time for self maintenance, for leisure and for learning, whereas post-adults allocated about two-third of the time for self-maintenance, 18% for free time and the remaining of 15% for income earning and for other household members.

Figure 1 Age Profiles of Time Use, Classified by Main Activities



Figures 2-7 show the age profiles of time use classified by gender. As shown in figures 2 and 5, the age profiles of own time and learning time were quite similar in men and women. However, for other activities, the differences were quite evident. Women in all ages used less time than men in contracted time, but more in committed time (figures 3 and 4). If we regard contracted time, committed time and learning time as “working time”, on the average women in age group 10-50 year worked about 1.5 hours longer per day than men, but men aged 80 and over worked slightly more than women in the same age range (figure 6). Together these leaved women with less free time as shown in figure 7.

Figure 2 Age Profiles of Own Time, Classified by Gender

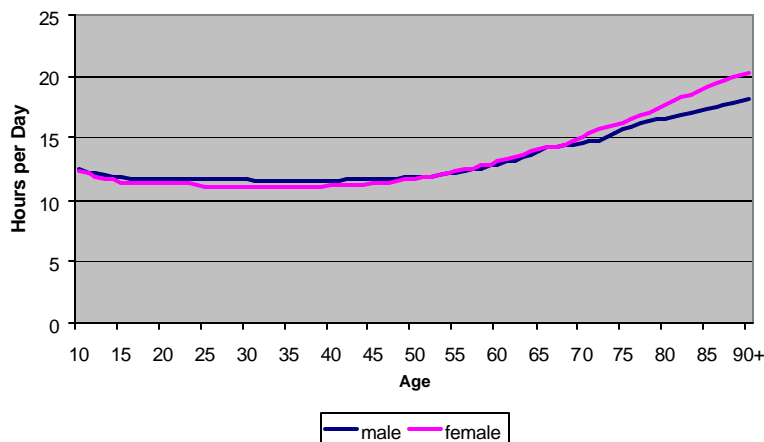


Figure 3 Age Profiles of Contracted Time, Classified by Gender

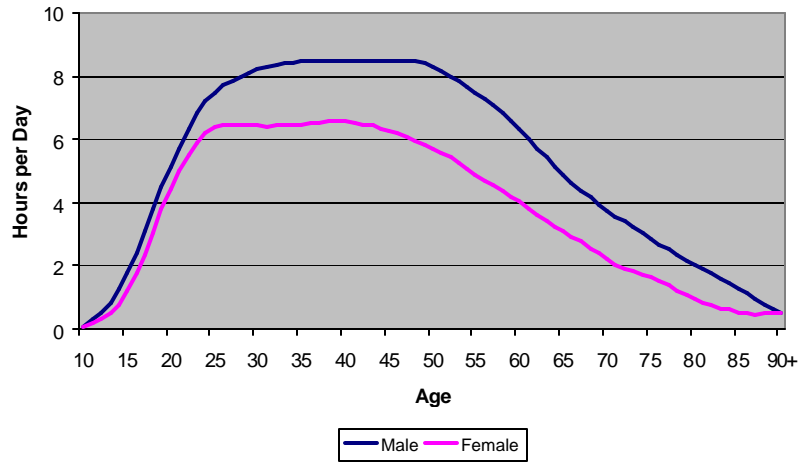


Figure 4 Age Profiles of Committed Time, Classified by Gender

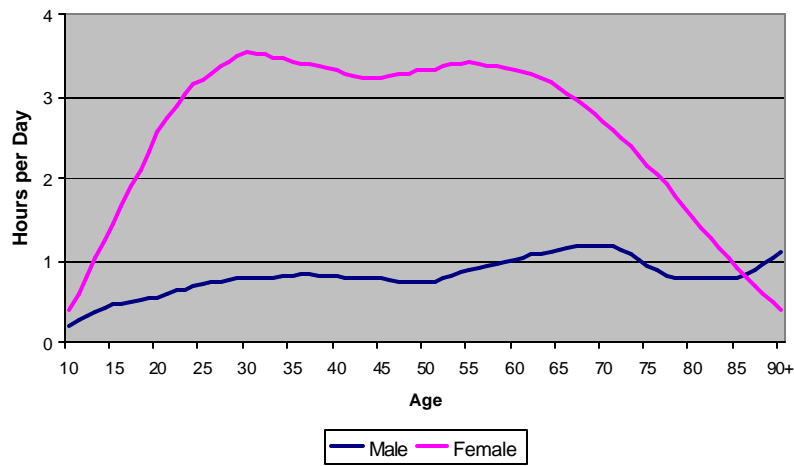


Figure 5 Age Profiles of Learning Time, Classified by Gender

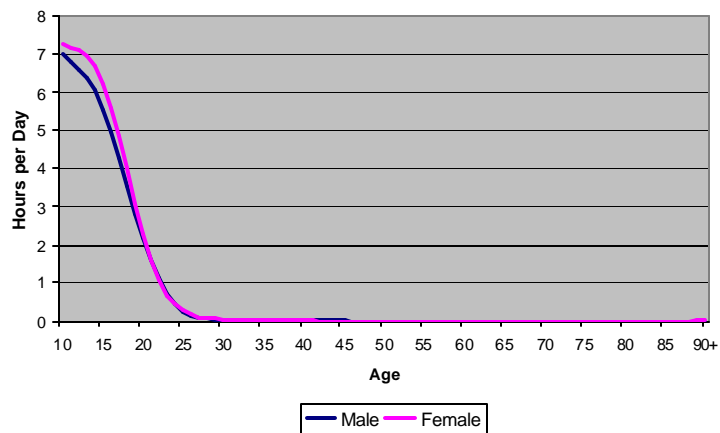


Figure 6 Age Profiles of “Working Time”, Classified by Gender

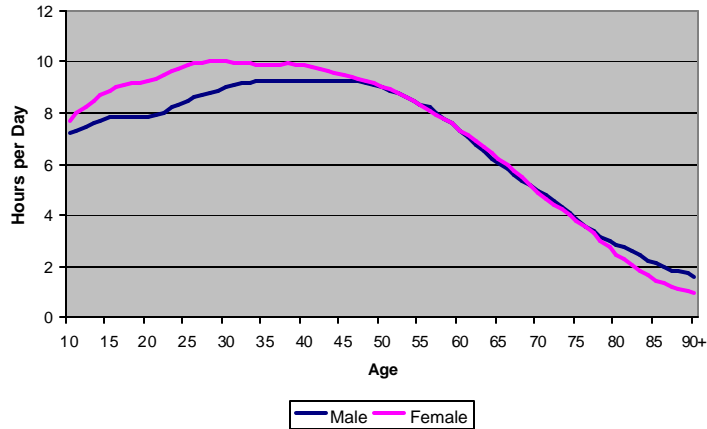
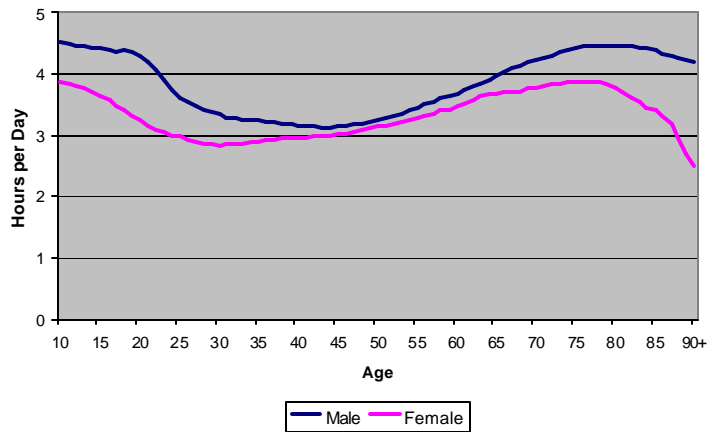


Figure 7 Age Profiles of Free Time, Classified by Gender



2. Household time transfer

2.1 Define transferable time

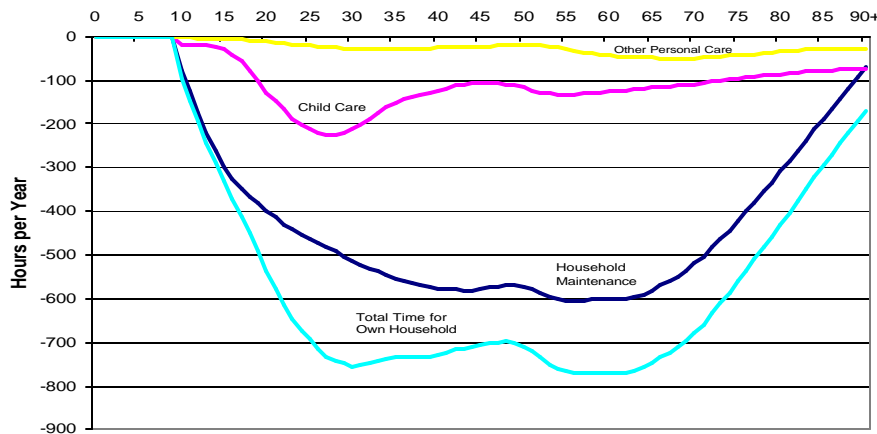
Everyone has exactly the same amount of time in a day, a week or a year, hence strictly speaking time belongs to one person can not be transferred to another. But time can be used in activities which benefit different parties. The benefits of time used in some activities, such as personal care, self maintenance, recreation, etc. go directly only to the person who performs the activities, nothing can replace own time in these activities. However, time used in some activities, such as household maintenances, caring for others etc. can benefit others who do not perform the activities. In a broader interpretation, time used in these activities could be transferred in the same manner as income earned by one is transferred to benefit others. However, a line must be drawn to separate time used in activities that can benefits other persons directly and is considered as transferable time. Following the concept generally used in literature related to evaluation of unpaid work, this paper defines transferable time as the use of time that satisfies the “third person criterion”. Three conditions are imposed on this criterion:- (1) it must be time use by and for members of own family and, (2) it must be time use in activities that can benefit other persons beside the persons who actually perform the activities and (3) it must be time use in activities that outcome can be replaced by market goods or services. Using this criterion, time

use in activities categorized under items 4 and 5 will be regarded as intra-household time transfer, while time use in activities categorized under items 6 will be regarded as inter-household time transfer.

2.2 Intra-household time transfer

2.2.1 The age profiles of intra-household time transfer: outflow Outflows or the supply of time in each category by age is the average hours used by an average person in that age in that category. The smooth age profile of each type of time outflow is given in figure 8. As a person grew from adolescence to adulthood, more time was used for household maintenance. Time use for this category reached a plateau between ages 35-65 before declining again. Outflow of time use for child care reached a maximum around age 28, and appeared to have another lower peak around age 55. The first and second peaks were likely to coincide with the time used to care for own children and grandchildren respectively. Time use for other personal cares, including caring for the sick, the elderly and the disable, was much less compared to the time use for household maintenance or child care; and young elderly seemed to be the main providers of these times.

Figure 8 Age Profiles of Committed Time, Classified by Type of Activities



Since transferable time is defined as time use for performing activities which are known to differ greatly by gender, figure 9 shows the age profiles classified by gender. Women in the prime ages around 25-60 years used approximately 1,200 hours a year (or 3.3 hours per day) for own household, compared to men in the same age range who used less than 300 hours a year (less than 50 minutes a day) in similar activities. This was the case in all three sub-categories of transferable time as shown in figures 9.1-9.3. It is worth noting that although the burden of household maintenance declined for women aged above 60, but the burden of child care and other personal care increased substantially for young elderly around aged 60-70 years. This is likely due to caring for grandchildren and aged spouse. Women aged 55 years old on the average used 250 hours per year (41 minutes per day) in caring for children, and women aged 65 year, on the average used 100 hours per year (16 minute per day) taking care of other persons. But the average figures across everyone definitely undermined the true burden of the young elderly who actually perform the task. For men, the average hours used for own household in all categories increase slightly after their retirement from market work.

Figure 9 Age Profiles of Committed Time, Classified by Gender

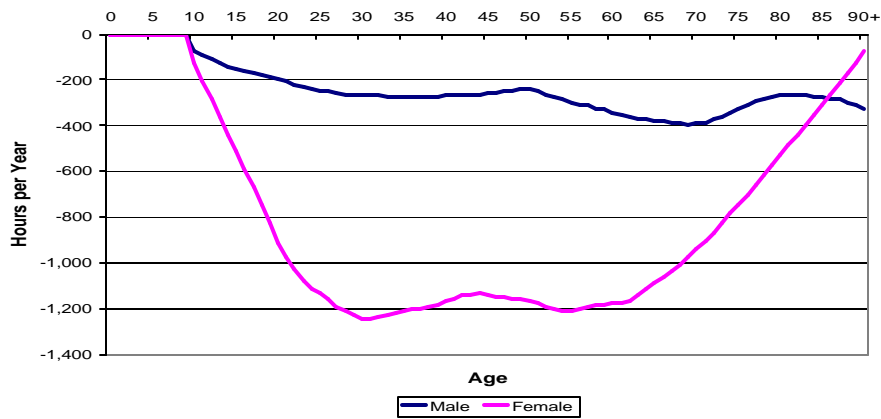


Figure 9.1 Age Profiles of Time Use for Household Maintenance, Classified by Gender

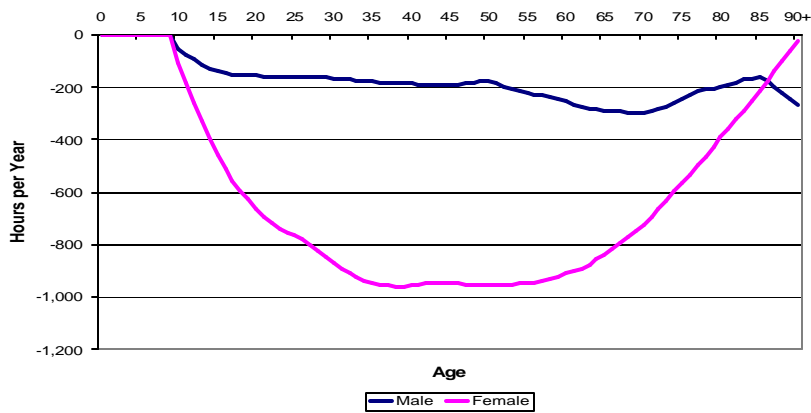


Figure 9.2 Age Profiles of Time Use for Child Care, Classified by Gender

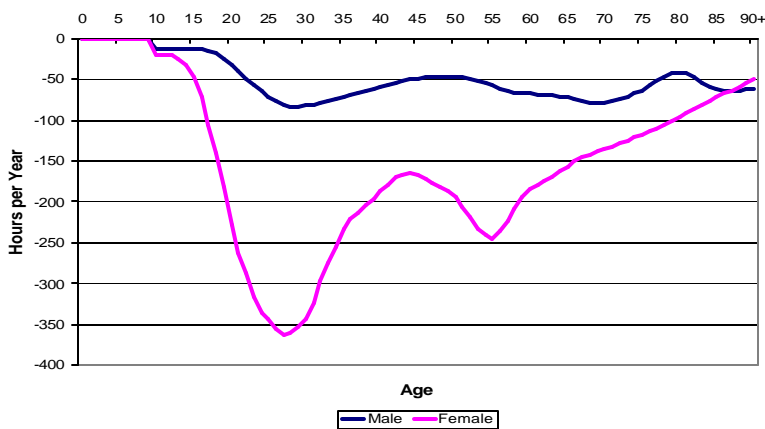
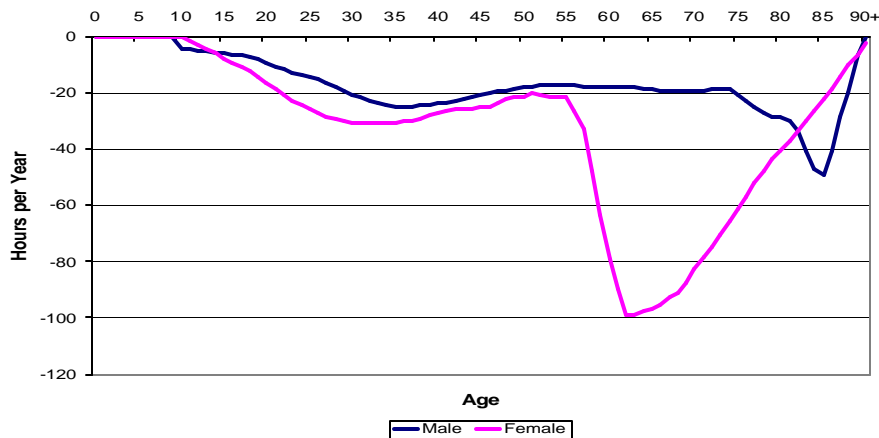


Figure 9.3 Age Profiles of Time Use for Other Personal Care, Classified by Gender



2.2.2 The age profiles of intra-household time transfer: inflow This section describes how to allocate the benefits of transferable time use for each category of household production to each household member. Household production is produced for own consumption only, hence the amount produced must equal the amount demanded in each household. The demand for some categories of household production is dependent on the age distribution of household members. For example, the presence of child members is likely to create the demand for child care, and the presence of aged members is likely to create the demand for other personal cares etc. For these categories of household production, the estimated coefficients of a regression model will be used as weights for allocation. The regression model used total time use by all household members in each category as the dependent variable and the number of household members by age group as the independent variables. However, it is unclear whether the benefits of household maintenance are dependent on the age distribution of members; hence inflow transfer of household maintenance will be equally allocated to every household member. The age profile of the inflow time transfer could be interpreted as the time needed to produce that amount of household goods and services demanded by household members in each particular age.

The estimated coefficients of time use for child care (including teaching, training and instruction of own children and traveling time related to child care activities) and for other types of personal care are given in Table 2.1-2.2. The smoothed and unsmoothed age profiles of the estimated inflow time transfer are shown in figures 10-11. The figures show that during the first year from birth, children's demand for child care was highest and declined rapidly as they grew up until age 5. The demand for other personal cares was also high in young children, young adults aged around 35-45 and the elderly. The high demand for other personal cares among young adults might be related to pregnancy and birth giving. In the subsequent sections, the smoothed age profiles will be used, except the inflow age profile of time use for child care, the unsmoothed one will be used; because the smoothed pattern compared to the unsmoothed one, is significantly lower among very young children.

Table 2.1 Estimated Regression Coefficients of TimeUse for Child care

Dependent Variables	Coefficients	S.E.
Mp04	161.4208	3.42
Mp59	22.37094	1.70
mp1014	2.75706	1.39
mp1519	5.344353	1.39
mp2024	11.98092	2.15
mp2529	14.63916	2.16

Note: Variable mp- is the number of members in each age group, for example, mp04 is the number of household member age 0-4.

Table 2.2 Estimated Regression Coefficients of TimeUse for Other Personal Care s

Dependent Variables	Coefficients	S.E.
mp019	4.10934	0.28
mp2024	.9295492	0.54
mp2529	3.723831	0.56
mp3034	3.746401	0.50
mp3539	1.84801	0.48
mp4044	1.277806	0.44
mp4549	1.648608	0.49
mp5054	1.078786	0.52
mp5559	1.106034	0.67
mp6064	5.926183	1.11
mp6569	4.317487	1.23
mp7074	4.892158	1.28
mp7579	5.688888	1.52
mp8084	4.835173	2.14
mp8589	11.1684	3.33
mp9094	15.78342	7.91
mp9599	32.13611	18.78

Note: Variables mp—is the number of members in that age group, for example, mp04 is the number of household member aged 0-4.

Figure 10 Smooth and Un-smooth Inflow of Time Use for Child Care

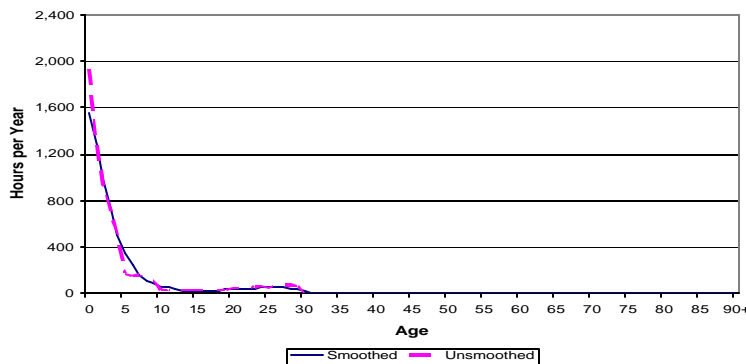
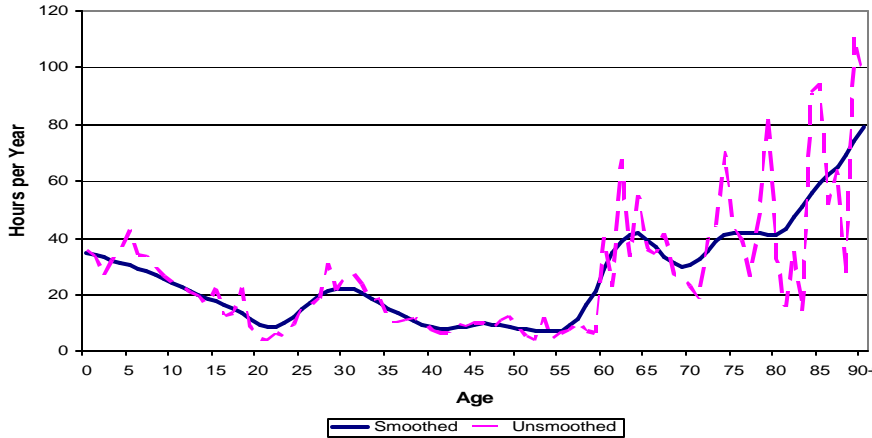
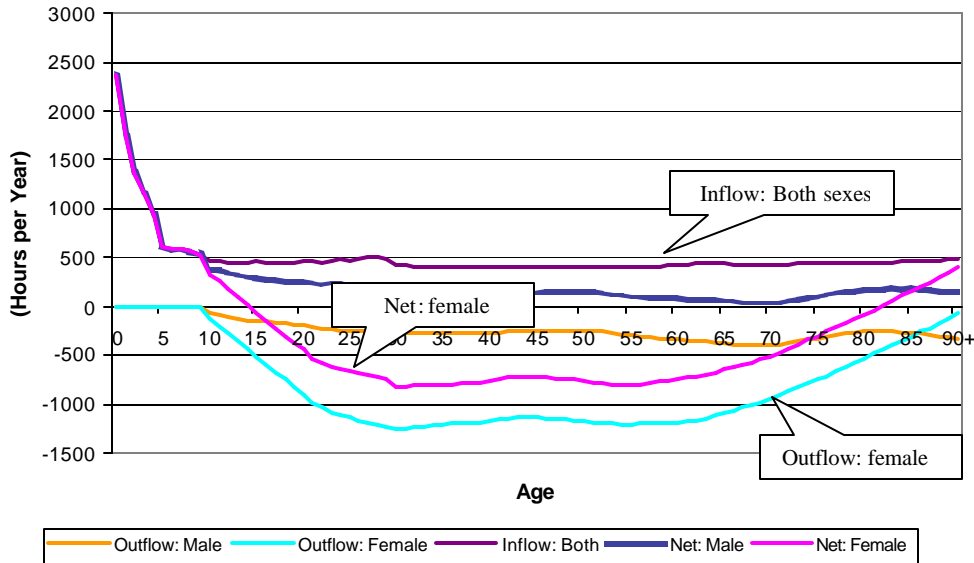


Figure 11 Smooth and Un-smooth Inflow of Time Use for Other Personal Care s



The net intra-household time transfers, defined as the difference between inflow and outflow transfers, are given in figure 12. Women spent quite a long span of their lifetime between ages 15-81 years as net suppliers of time transfer. Young children were net receivers who benefit from these time transfers. The elderly aged above 81 years old and men in all ages were also net receivers of time transfers.

Figures 12 Age Profiles of Inflow, Outflow and Net Intra-household Time Transfer

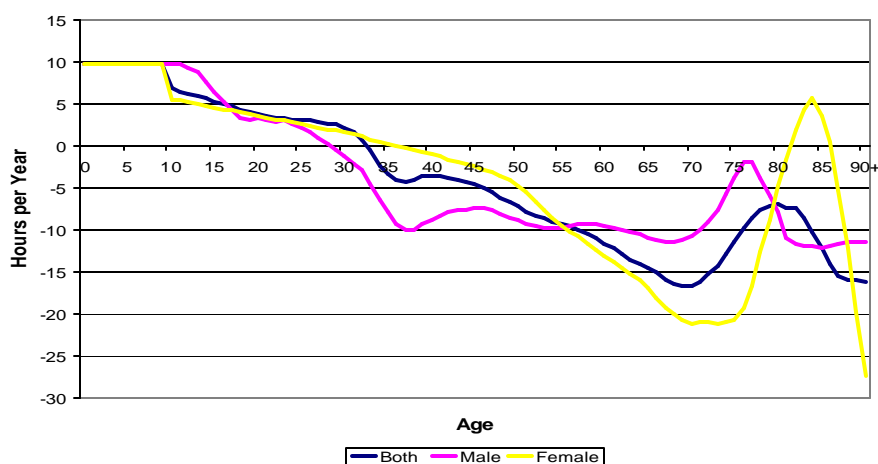


2.3 Inter household time transfer

Using similar method as used in the intra-household transfer, the age profile of time outflow in inter-household transfer is obtained directly from the use of time in community services and help to other households. Again, we have no information on the demand side or who would benefit from these activities. Hence it is assumed that every one received an equal share. Figure 13 shows the age profiles of net inter-household time transfer by gender. Men started to be net suppliers of inter-household time transfer at the age of 29, and continued to be so for the rest of their lives. Women began being net suppliers of inter-household time

transfer somewhat later, starting at the age of 38, and the amount of net time supplied exceeded that by men at around age 56, and continued to increase to reach a peak at around ages 68-75 years old when the amount supplied was more than 20 hours a year.

Figure 13 Per Capita Net Inter-household Time Transfers, Classified by Gender



3. An evaluation of time transfer

3.1 Per capita transfer

The value of unpaid work in production for market, such as those classified under categories 2-3 are already included in the System of National Account (SNA), although they are often believed to be under-reported. However, the production of domestic and personal services for own consumption and volunteer work, such as those classified under categories 4-6 are not included in the SNA. Hence, SNA is usually under-estimate the true value of production in a country. Since aggregate control in the NTA is taken from the SNA, private transfers through activities under categories 4-6 are also missing. To capture the missing components, the value of these activities should be added into the NTA. Evaluation of household production can be found in literatures related to the evaluation of unpaid work by women. Two evaluation approaches could be distinguished: output or input approaches. Time Use Survey in Thailand recorded only time use in each activity, not the unit of output which is required if the output approach is used, hence it is ruled out automatically. The input approach evaluates the value of unpaid work by the product of time use and the wage per unit of time use. It can be further separated into 2 methods: the opportunity cost and the replacement cost. The opportunity cost method used the expected wage rate of the person who performed the task in their calculation, whereas the replacement cost method used the market wage of the worker who engaged in similar type of tasks. The weakness of the opportunity cost method is that the imputed value of unpaid work depends on the characteristics of the persons who perform the task, rather than the characteristics of the task itself. In addition, breaking down of population by their characteristics that affect expected wage rate, such as educational attainment and residential areas are required if the opportunity cost method is used. But such population breaking down is not usually available in official population projection. Hence, the replacement method will be used in this study.

Two types of wage rate could be used in the replacement method, namely the wage rate of a generalist or a specialist. Replacement by a generalist usually uses the wage rate of domestic workers in the evaluation, while replacement by a specialist uses the wage rate of worker in specific profession. For example, while the value of spending two hours cooking a meal is the multiple of 2 and the hourly wage of domestic helpers in the generalist method, it

will be the multiple of 2 and the hourly wage of professional cook (code# 5122 according to the International Standard Classification of Occupation: ISCO) in the specialist method. Usually, the value of unpaid work using the specialist replacement method is higher than the generalist replacement method.

Table 3 gives the average hourly wage for selected occupations from the 2001 Labor Force Survey. The wage of occupation (1) in the table is used in the generalist replacement method, while the wages in occupation (2)-(4) are used to evaluate household maintenance time, time use for child care and for other personal cares in the specialist replacement method. The wage in occupation (5) is used to evaluate time use for community services.

Table 3 Hourly Wages by Occupation and Gender

(In Baht)

Description of Occupation	ISCO code	Male	Female	Both
(1) Domestic helpers and cleaners	9131	16.25	17.36	17.33
(2) Purchaser in small enterprises, Cooks, Helpers and cleaners in offices and hotels and related workers, hand launderers and pressers	3416, 5122, 9132, 9133	24.70	18.05	19.57
(3) Child care workers	5131	7.41	16.45	15.66
(4) Home based personal care workers	5133	14.42	22.40	22.23
(5) Sweepers and related laborers, building and construction laborers	9162, 9313	17.10	13.20	15.48

Source: Tabulated from the 2001 Labor Force Survey

The value of unpaid work by the specialist replacement method is about 10% higher than the generalist replacement method. But there is almost no difference between the 2 methods in terms of net value since differences in the value of time inflow and outflow cancel out. Therefore only the figures from the specialist replacement method will be presented in the following discussion. As mentioned earlier, women are net providers of household time almost through out their life time from age 15-81. At the peaks around age 31, the net value of time provided by an average woman for other household members was around 13,744 Baht per year. Over a woman's lifetime, the average net value of time provided for others was about 441,209 Baht².

The value of time transfer (after adjusted by price deflator) is added to the monetary transfer estimated from the 2004 NTA flow account. As shown in figure 15 and table 4, in all ages except for young children, intra-household monetary transfer was by far the most important source to close the earning and consumption deficit. But the value of time that household members used to take care of young children was also an important component. In the first year of life, the value of time transfer received was 39,216 Baht which accounted for 67% of total intra-household transfer, the share of time transfer received declined to 33% and 19% when children reached age 5 and 10 respectively. The net value of time received by children of both sexes turned 0 at age 18 and became net provider of time from there on until age 72, before turning to be time dependent again. Thus children seemed to become self dependent in terms of time about 6 years earlier before they did financially at the age of 24. Inter-household transfers, both monetary and time were almost negligible in Thai society.

² The value was measured in 2001 Baht.

High co-residence of parents and children might be one of the reasons, because most transfer between parents and children had already been captured in the intra-household transfer. Public transfer was also high in children through education. The amount of both time and public transfer received by the elderly was much lower and came only quite late in life after aged 75 years old.

Figure 14 Per Capita Value of Intra-household Time Transfer by Specialist Replacement Approach

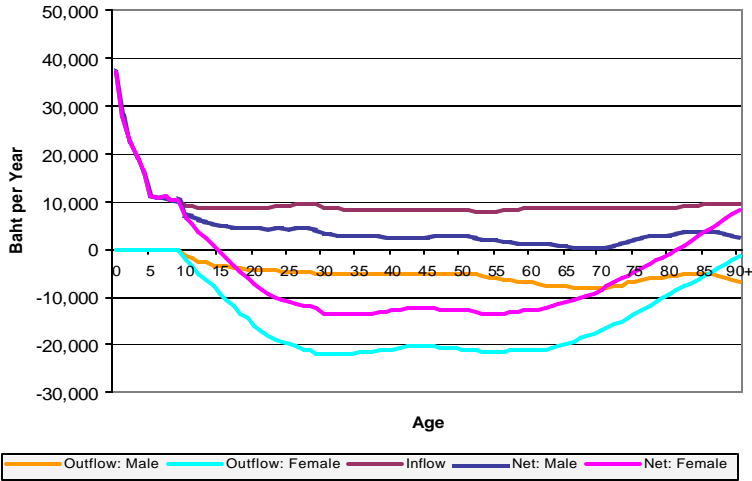


Figure 15 Total Value of Per Capita Private and Public Transfer

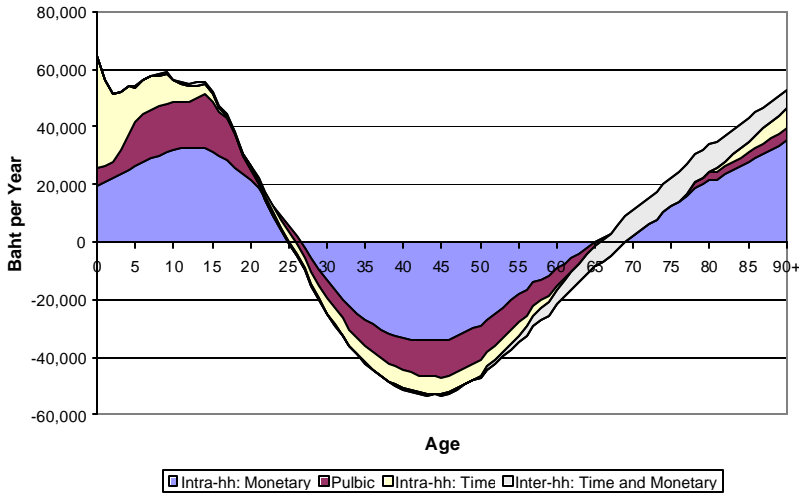


Table 4 National Transfer Flow Account with Time Transfer (per capita)

(In Baht)

	Average	0-19	20-34	35-49	50-64	65-79	80+
Lifecycle deficit	7,987	46,794	-6,578	-37,977	-5,351	49,637	64,117
Consumption	58,324	49,667	59,005	63,451	65,446	66,257	68,912
Private	47,011	32,371	50,180	55,865	57,094	56,675	58,305
Public	11,312	17,296	8,825	7,586	8,352	9,582	10,607
Less: Labor Income	50,337	2,873	65,583	101,428	70,797	16,620	4,795
Age Reallocations	7,987	46,794	-6,578	-37,977	-5,351	49,637	64,117
Asset-based Reallocations	6,636	4,822	-2,927	5,891	16,754	33,449	27,092
Income on Assets	24,717	251	11,710	51,712	58,998	35,328	23,789
Less: Saving	-18,081	4,571	-14,638	-45,821	-42,245	-1,879	3,303
Transfer	1,350	41,972	-3,651	-43,868	-22,105	16,188	37,026
Public	54	13,646	-2,876	-11,407	-8,551	-465	2,944
Private	1,296	28,326	-775	-32,461	-13,554	16,653	34,081
Inter-hh Transfer	1,296	537	651	-364	3,235	8,934	8,475
Others	1,296	410	610	-296	3,394	9,164	8,632
Time	0	127	40	-68	-159	-230	-157
Intra-hh Transfer	0	38,514	-5,656	-38,062	-23,401	3,430	28,148
Others	0	27,916	-1,385	-32,165	-16,948	7,489	25,449
Time	0	10,597	-4,271	-5,897	-6,453	-4,059	2,699

Sources: NT flow account is taken from "Changing Labor Income, Consumption and Age Reallocation in Thailand" by Mathana Phananimamai and Amonthep Chawla (2007)

Due to the significance of time and public transfer to children, it is worth looking at the full cost of raising a child from birth until age 24 years old when they become independent both in terms of time and financially. Table 5 presents the transfer figures in more details. The full cost of raising a child in Thailand amounted to about 1.156 million Baht in 2004. Of this total cost, about 75% were private cost and 25% were public cost through transfer. Ninety eight percent of private cost borne by own household and the remains of 2% by inter-household transfer. The cost that was borne by own household was further divided into 76% by monetary transfer and 24% by time transfer. But as Figure 16 shows, the percentage share of full cost varies by the age of children. Time transfer was important for pre-school children. The share of public transfer was highest during primary school ages and the share of intra-household monetary transfer was highest during secondary and tertiary ages.

Table 5 Full Cost of Children by Sources until Become Independent

Age	Intra-household Transfer		Inter - Household	Public	All transfer
	Money	Time			
0	19,411	39,216	164	6,159	64,949
1	20,505	29,009	162	5,835	55,512
2	21,668	23,192	160	5,545	50,565
3	22,906	19,688	160	8,180	50,933
4	24,224	16,386	160	12,234	53,003
5	25,623	11,522	160	15,298	52,603
6	27,077	11,230	178	16,703	55,189
7	28,493	11,364	231	16,941	57,029
8	29,977	10,927	284	16,899	58,087
9	31,518	10,705	339	16,795	59,356
10	32,616	7,563	356	16,761	57,297
11	33,486	6,705	574	16,612	57,376
12	34,310	5,543	815	16,485	57,154
13	34,549	4,518	948	17,869	57,884
14	34,079	3,460	1,034	19,932	58,504
15	33,059	2,682	1,082	18,125	54,948
16	31,485	1,727	1,012	16,118	50,342
17	29,919	865	1,102	15,433	47,319
18	27,689	76	1,001	12,346	41,111
19	25,398	-758	1,002	7,377	33,019
20	22,846	-1,438	977	5,728	28,113
21	19,856	-2,269	970	4,305	22,862
22	16,790	-3,090	1,080	2,266	17,047
23	13,421	-3,420	1,061	-96	10,967
24	9,870	-3,862	1,066	-1,704	5,370
Sum	650,774	201,540	16,077	288,146	1,156,538

Figure 16 Percentage Share of The Cost of Children Classified by Sources



3.2 Aggregate transfer

The aggregate transfer is obtained by multiplying per capita transfer by population size in each age group. Population ages between 30 to 40 years old were main net providers of household time. But it was the population ages between 50 to

68 years old who were main net providers of time in community services (figures 17 and 18).

The NT flow account shows that in 2004, the burden of working age population was mainly on rearing and caring for children, the burden on the elderly is far smaller. When the value of time was included, it was further confirmed that children was not only more demanding in terms of financial resources, but also more of household time; and it was the provision of time by the elderly that significantly reduced the burden of working age population from the responsibilities of household production.

Figure 17 Aggregate Value of Intra-household Time Transfer

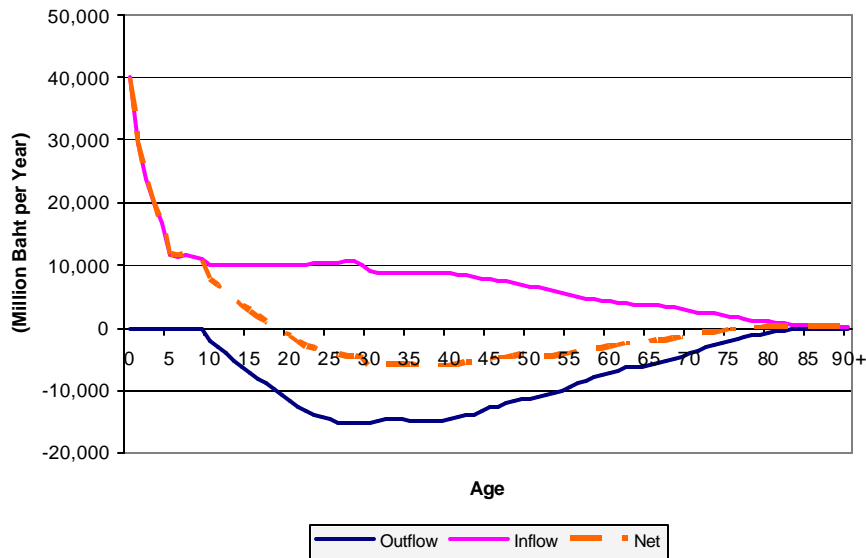


Figure 18 Aggregate Value of Inter-household Time Transfer

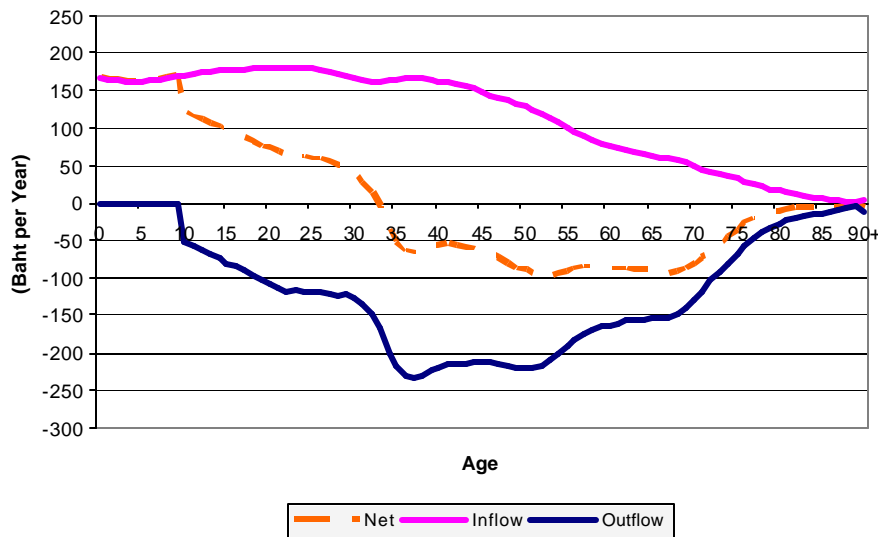


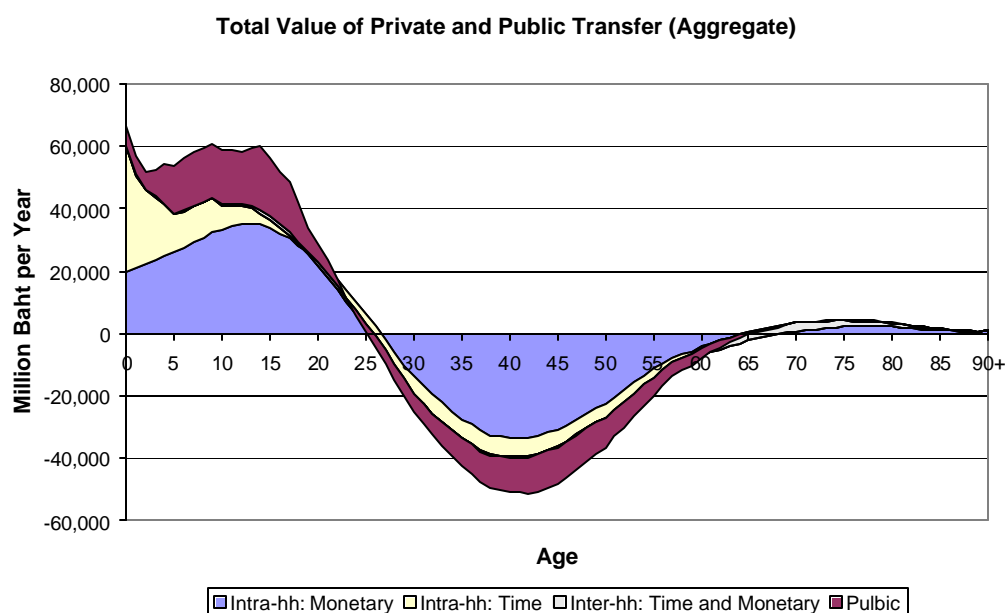
Table 6 National Transfer Flow Account with Time Transfer (Aggregate)

(In Billion Baht)

	Average	0-19	20-34	35-49	50-64	65-79	80+
Lifecycle deficit	509	973	-104	-539	-45	191	33
Consumption	3,715	1,033	934	901	556	255	35
Private	2,994	673	795	793	485	219	30
Public	721	360	140	108	71	37	5
Less: Labor Income	3,206	60	1,039	1,440	601	64	2
Age Reallocations	509	973	-104	-539	-45	191	33
Asset-based Reallocations	423	100	-46	84	142	129	14
Income on Assets	1,574	5	185	734	501	136	12
Less: Saving	-1,152	95	-232	-650	-359	-7	2
Transfer	86	873	-58	-623	-188	62	19
Public	3	284	-46	-162	-73	-2	2
Private	83	589	-12	-461	-115	64	17
Inter-hh Transfer	83	11	10	-5	27	34	4
Others	83	9	10	-4	29	35	4
Time	0	3	1	-1	-1	-1	-0
Intra-hh Transfer	-0	801	-90	-540	-199	13	14
Others	-0	581	-22	-457	-144	29	13
Time	-0	220	-68	-84	-55	-16	1

Sources: NT flow account is taken from “Changing Labor Income, Consumption and Age Reallocation in Thailand” by Mathana Phananimamai and Amonthep Chawla (2007)

Figure 19 Total Value of Private and Public Transfer (Aggregate)



Conclusion

The quantity of net time transfer is defined as the difference between the time supplied; and the time demanded to perform each type of household production needed by an individual. As expected, women were net providers of household time over a long period of time from age 15 to 81. Their time was mainly used for household maintenance. Providers of time for childcare concentrated around ages 20-35, but providers of time for other personal care concentrated around ages 60-70. According to time evaluated by the specialist replacement method, over a woman's lifetime, the average net value of time provided for others was about 467,038 Baht, and the amount peak at around age 31 when an average women provided household time worth 14,548 Baht per year³. For community services and help to other household, main providers were persons aged 50-68 years old. Men started becoming net providers of time to other households sooner than women at around age 29. However, the amount of financial and time inter-household transfers were very small in Thailand.

When the value of time use for childcare was included to obtain the full cost of raising a child from birth until age 24 years, it turned out that the cost was about 1.156 million Baht, of which 75% were private cost and 25% were public cost. About 98% of private cost was intra-household transfer, of which 76% was monetary transfer and 24% was time transfer.

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³

The value is measured in 2004 Baht, hence it is slightly different from figures in page 13.