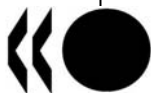


Unclassified

STD/CSTAT/WPNA(2010)13



Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

17-Nov-2010

English - Or. English

STATISTICS DIRECTORATE
COMMITTEE ON STATISTICS

STD/CSTAT/WPNA(2010)13
Unclassified

Working Party on National Accounts

THE IMPACT OF SOCIAL TRANSFERS IN KIND ON HOUSEHOLDS INCOME DISTRIBUTION

To be held on 1-3 December 2010
OECD Conference Centre
Beginning at 9:30 a.m. on the first day

This item has been prepared by Oz Shimony and Pablo Mandler (Central Bureau of Statistics, Israël) and will be presented under item 3 of the draft agenda

JT03292616

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THE IMPACT OF SOCIAL TRANSFERS IN KIND ON HOUSEHOLDS INCOME DISTRIBUTION

Introduction

This note shows the results of updating previous work¹ on the household's income distribution effects of social transfers in kind (STK)

As mentioned in the previous CBS paper on the subject, income and consumption are regarded as important components in analyzing households' standard of living. The available data for individual households on income and consumption are mainly based on monetary flows. Nevertheless, the effective consumption of households depends not only on their consumption expenditure, but also on the amount of services (such as education and health) provided to them free or at not economically significant prices, by general government and non-profit institutions serving households (NPISH). Therefore, wider concepts of income and consumption are needed to analyze standards of living, especially when making longitudinal or international comparisons.

The 1993SNA introduced in its central framework new concepts of income, consumption and transfers. To measure the value of the goods and services provided to individuals as such, the general government's final consumption expenditure was divided into collective consumption expenditure and individual consumption expenditure. The final consumption expenditure of NPISH was supposed to cover only individual needs. To estimate the total actual consumption of goods and services acquired by households, the value of the individual consumption expenditure of general government and NPISH, are added to the households' final consumption expenditure in the form of social transfers in kind (STK). These STK are also added to households' disposable income to measure the adjusted disposable income that constitutes the current financing source of the households' actual final consumption.

The previous mentioned CBS paper on the subject stressed that it is important to note the different character of the effects of monetary transfers when compared to the effects of STK. Unlike STK, households may use monetary transfers to purchase goods and services as they wish. In addition, most STK consist on education and health services, which increase human capital quality and are expected to affect total households income from economic activities and its distribution in the future as well. Households may regard them more as a type of investment than as additional consumption.

In the 1993SNA the concepts of adjusted disposable income, actual final consumption and STK were incorporated in the central framework for the household sector as a whole.

Estimating these aggregates for groups of households classified by income levels, enable us to analyze the role of the general government in the redistribution of income processes in a much wider framework. To do that, we have combined data from national accounts, satellite accounts on education and health services, households' expenditure and income surveys as well as other surveys and data sources.

¹ Applying the 93SNA to measure the impact of social transfers in kind on income and consumption distribution, Working paper submitted by the Israel's Central Bureau of Statistics to the Joint ECE/Eurostat/OECD Meeting on National Accounts, Geneva, 26-28 April 2000) and The impact of social transfers in kind on income distribution, Central Bureau of Statistics, publication No 1049, Jerusalem. March 1997.

This updating work also benefits from the changes introduced in the CBS's Household Expenditure Survey's questionnaire, partially as a result of insufficient information founded when using this survey's results in the previous work on the allocation of STK to groups of households (e.g. it was possible for 2007 to classify most of households purchases on health services into market and non-market purchases).

This note covers the allocation of STK on education and health services to groups of benefited households, as more complete data is available for this purpose. The provision of education and health services to households generates approximately three quarters of the total STK received by them. Work is being done to cover the allocation of STK generated by other services.

The paper contains two sections. Section 1 covers the main findings, while section 2 describes the methods and sources that were used.

1. Findings

The tables below show the disposable income, social transfers in kind and adjusted disposable income at the aggregate level as included in the national accounts.

Table 1 shows the social transfers in kind for all categories in the years 1995 to 2008. The social transfers in kind as a percentage of households' disposable income increased from 1995 to 2002 from about 22% in 1995 to 24.5% in 2002. The increase in these years was mainly in education services. After that there was a decrease in the percentage and in 2008 social transfers in kind amounted to only 21.4% of households' disposable income. The decrease in percentage in recent years was mainly in education and health services, while the percentage of other categories remained stable.

Table 1. - Disposable income and social transfers in kind from general government and private non profit institutions to households, by purpose 1995-2008

NIS million														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	AT current prices													
Households' disposable income	185,348	217,507	236,750	265,626	290,012	306,159	324,682	327,463	345,057	357,848	384,413	420,096	436,629	467,283
Social transfer in kind - total	41,342	48,952	54,668	59,756	65,223	70,608	75,867	80,333	79,225	81,273	83,902	88,944	94,439	100,186
1.Education	18,021	21,441	24,147	26,395	29,115	30,945	33,496	35,060	34,008	35,349	36,351	38,639	41,902	44,322
2. Health	14,420	16,907	18,728	20,352	21,803	23,420	24,716	26,134	25,828	26,366	27,307	28,110	29,347	31,369
3.Welfare and social security	4,352	5,124	5,847	6,575	7,506	8,619	9,809	10,747	10,794	10,809	11,153	11,990	12,732	13,349
4.Culture and religion	3,539	4,345	4,647	4,985	5,194	5,870	5,969	6,406	6,411	6,539	6,804	7,721	7,950	8,439
5.Housing and community services	1,011	1,135	1,299	1,449	1,605	1,754	1,877	1,986	2,184	2,210	2,287	2,484	2,508	2,707
Households' adjusted disposable income	226,691	266,459	291,417	325,382	355,235	376,768	400,549	407,796	424,282	439,121	468,315	509,041	531,069	567,469
	Percentages													
Households' disposable income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Social transfer in kind - total	22.3	22.5	23.1	22.5	22.5	23.1	23.4	24.5	23.0	22.7	21.8	21.2	21.6	21.4
1. Education	9.7	9.9	10.2	9.9	10.0	10.1	10.3	10.7	9.9	9.9	9.5	9.2	9.6	9.5
2. Health	7.8	7.8	7.9	7.7	7.5	7.6	7.6	8.0	7.5	7.4	7.1	6.7	6.7	6.7
3.Welfare and social security	2.3	2.4	2.5	2.5	2.6	2.8	3.0	3.3	3.1	3.0	2.9	2.9	2.9	2.9
4.Culture and religion	1.9	2.0	2.0	1.9	1.8	1.9	1.8	2.0	1.9	1.8	1.8	1.8	1.8	1.8
5.Housing and community services	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Households' adjusted disposable income	122.3	122.5	123.1	122.5	122.5	123.1	123.4	124.5	123.0	122.7	121.8	121.2	121.6	121.4

Table 2 compares disposable income, consumption, and social transfers in kind at the aggregate level in 1992 – the year examined in the previous paper - and in 2007 – the year examined in the current paper.

While households' disposable income in 2007 reached 3.82 times the income of 1992, STK in 2007 however, reached 4.72 times the STK of 1992. Adding both values to get 2007 households' adjusted disposable income shows an income which was 3.95 times the 1992 value. The corresponding value for households' final consumption expenditure was 3.91, and when adding STK to get actual consumption the value increased to 4.05. As for other type of services included in STK which have not been allocated, Welfare and social security in 2007 has almost reached 7 times the value of 1992, Housing and community services have only increased by 32 percent.

Table 2. Different households' income and consumption aggregates and social transfers in kind from general government and NPISH by purposes 1992 vs. 2007			
NIS million			
	1992	2007	2007/1992
	AT current prices		
Households' disposable income	114,414	436,629	3.82
Households' final consumption expenditure	96,589	377,698	3.91
Social transfer in kind - total	20,008	94,439	4.72
1.education	9,344	41,902	4.48
2. Health	5,295	29,347	5.54
3.Welfare and social security	1,835	12,732	6.94
4.Culture and religion	1,632	7,950	4.87
5.Housing and community services	1,902	2,508	1.32
Households' adjusted disposable income	134,422	531,069	3.95
Households' actual consumption	116,597	472,137	4.05
Households' disposable income	100.0	100.0	
Households' final consumption expenditure	84.4	86.5	
Social transfer in kind - total	17.5	21.6	
1.education	8.2	9.6	
2. Health	4.6	6.7	
3.Welfare and social security	1.6	2.9	
4.Culture and religion	1.4	1.8	
5.Housing and community services	1.7	0.6	
Households' adjusted disposable income	117.5	121.6	
Households' actual consumption	101.9	108.1	

As mentioned, STK on Health and education covers about 75% (73% in 1992) of total STK. Due to their high relative importance and that data for these services were more available than for other services, the paper analyzes only these services to this point. In the near future some of the remaining services will be analyzed till a final publication.

When comparing the results of 1992 and 2007 its worth noting that the primary income including pensions in the first decile has increased only by 11 percent whereas the change in the tenth decile was 175 percent.

The effects of monetary transfers and STK on income distribution

The summary table 3 below and table A1 in the annex present income according to different income concepts which helps to examine the redistribution of income after adding monetary and STK of general government and NPISH. As in the case of 1992 data, the original presentation of the CBS households' surveys is maintained, and primary income is presented with pensions.

The several stages of income distribution were examined.

- Households' income in the form of compensation of employees, property income and pensions.
- Households' income after adding receivable current transfers (excluding pensions).
- Households' income after deduction of current transfers payable.
- Households' after adding STK from general government and NPISH.

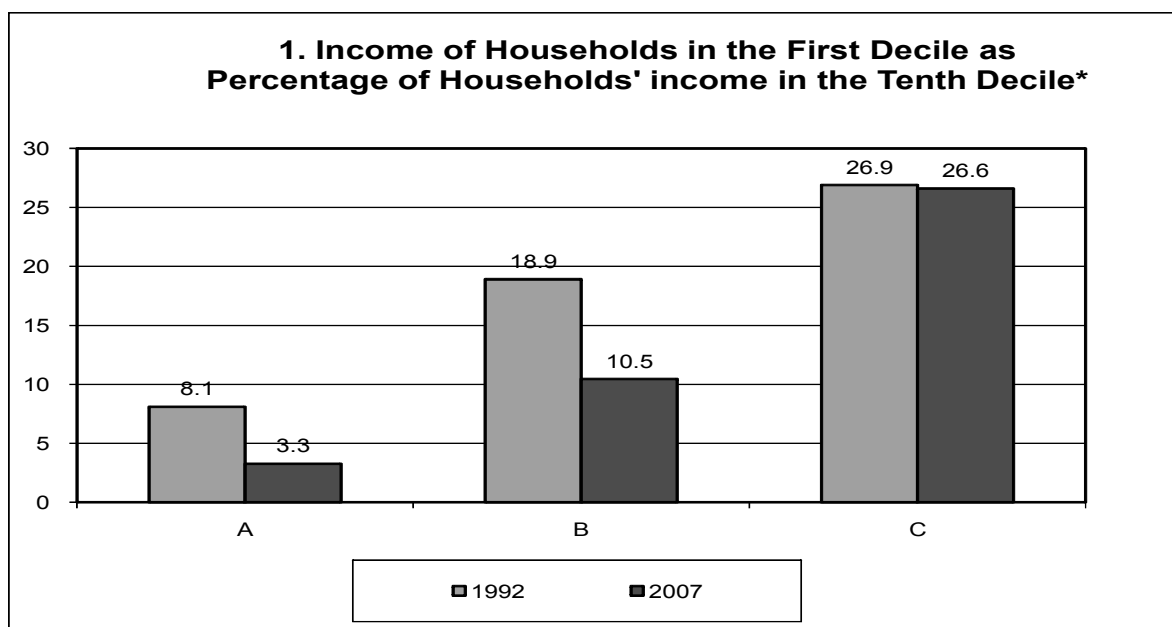
To illustrate the changes in the different stages of income distribution among deciles a simple proportion of the average household in each decile compared to the tenth decile (the highest).

At Current Prices								
	Decile				Decile and year		Year and decile	
	1	10	1	10	1	10	1992	2007
	1992		2007		2007/1992		1/10	
	Monthly household's income - NIS				Percentages change		Percentages	
(1) Primary income and pensions	1,020	12,541	1,132	34,502	11	175	8.1	3.3
(2) current transfers, receivable **	919	625	1,731	1,398	88	124	147.0	123.8
(3) current transfers, payable	58	3,223	219	10,613	278	229	1.8	2.1
(4)=(1)+(2)-(3) Housholds disposable Income	1,881	9,943	2,643	25,287	41	154	18.9	10.5
(5) Social transfers in kind on education and health services	880	306	4,523	1,657	414	442	287.6	272.9
(6)=(4)+(5) Housholds adjusted disposable income	2,761	10,249	7,166	26,944	160	163	26.9	26.6

* Of disposable income per standard person

** Excluding pensions

As shown in the graph below the primary income and pensions in 2007 of the first decile sums to a 3.3% (compared to 8.1% in 1992 figures) of the income of the tenth decile.



A = Primary income and pensions
 B = Disposable income (A minus current transfers, excluding pensions, net)
 C = Adjusted disposable income (B plus social transfers in kind of education and health services)
 * Of disposable income per standard person.

The gap between the first decile and the tenth decile decreases in 2007, when we add the net transfers to get the disposable income of each decile. The first decile sums to 10.5% of the disposable income of the tenth decile (but still much lower than the 19% reached in 1992).

Finally the inequality decreases even more when we add STK of education and health to the equation. After adding STK to each and every decile, the adjusted disposable income of the first decile represents 26.6% of that of the highest decile reaching a similar percentage as in 1992 (27%).

STK of health and education has increased the disposable income for all deciles and the lower the income the higher the impact. The increase is more important in education than in health (as in 1992).

The effects of STK on actual consumption expenditure

Actual consumption includes both, final consumption expenditure and STK.

STK in Health and Education has increased actual consumption by 18.9 percent (15.3 in 1992) when compared to households' final consumption expenditure.

The relative importance of STK on health and education as a percentage of final consumption expenditure by deciles was in 64 percent in the first decile in the year 2007 (40 in 1992) and 8 in the tenth decile (5 in 1992).

Education Services – STK

The proportion of STK in Education Services from Households' disposable income has reached 16 percent in 2007 (8.2 percent in 1992)

STK in education services has decreased the inequality in income distribution. As expected the percentage of STK in households in the first decile is much higher (118%) than the percentage of the STK from the disposable income of the tenth decile (3%). The corresponding percentages for 1992 were 29 and 2.

The following are some of the main variables which affect the distribution of STK of education services along the income deciles.

- Distribution of pupils by households' deciles and level of education.
- Total costs of different pupils in the different levels and type of education. (The raw data include much more levels than the ones shown in the paper).
- Households' payments by decile to government and private NPI for different education services.
- Households' expenditure survey is designed for households therefore the number of households in each decile is the same. The number of pupils in each decile however is not the same. The average number of persons per household in the first decile was 4.5 (4.1 in 1992) and only 2.6 (2.3 in 1992) in the richest decile (the tenth decile). The age composition is also different and has changed since 1992. In the first decile more than 47 percent (42 in 1992) are 15 years old or less and 4.2 percent (7 in 1992) are 65+ years old. In the tenth decile the corresponding percentages were 14 (10.2 in 1992) and 13.1 (15.2 in 1992), respectively.
- The distribution of pupils among the deciles differs by level of education. In the lower deciles the number of pupils in the lower level of education is relatively higher than their numbers in the higher deciles. This is mainly due to the fact that households in the low deciles have relatively high number of young people.
- In general the higher the level of education the higher the average cost per pupil, as well as the costs covered by the households and the STK as a result of that. The proportion of STK in the primary education decreases along the deciles. In the Tertiary education we see an opposite phenomena where STK increases along the deciles.
- In 1992 - "STK of universities services and other higher education institutions increase inequality - households of high deciles receive a relatively big part of these STK. This is due to the fact that there are relatively more students in households with high income than students in households with low income. In most cases payment per student does not depend on the households' income. Inequality may be actually higher than what the findings reveal, since students who do not live with their parents are regarded in household expenditure surveys as members of separate households with low income, and so they were assigned to low deciles." – looking at the case in 2007 reveals a different trend. Indeed the proportion of STK to Tertiary Education from total STK of the decile is increasing along the deciles but when looking only at the proportion of Tertiary Education for each and every decile from the total STK to Tertiary Education we see that the allocation of this STK is quite equal resulting in 10 percent for both the first and the tenth decile. In 2007 the tertiary education includes a wider spectrum of educational units with different costs than the few that were existed in 1992.

- While looking the tertiary education it was found that a micro analytical approach would provide a much better insight of the distribution among the different type of units covered by the tertiary education

Health Services - STK

As in the case in education services, STK of health services benefit relatively more the low-income households. In the first decile they represented 53 percent of households' disposable income while in the tenth decile STK was only 3 percent. The corresponding percentages for 1992 were 18 and 1 respectively.

The following are the main factors explaining the distribution behind the results. (See the method applied below.

- Average size and of household in each decile.
- Composition of age and gender in the different deciles.
- Differential cost coefficients for each group of age and gender.
- Value of households' payments for health services.

Comparison with the 1992 allocation of STK

Although comparisons of results are not easy, due to the differences in the availability of basic data for the years 1992 and 2007, a comparison is made here of the main findings.

One of the most important findings in relation to the distribution of monetary income is the widening gap between the primary and pension income recorded for the lowest decile as compared to the one recorded for the highest decile. The income payable to the 1st decile represented an 8.1 percent of the income payable to the 10th decile in 1992 and only 3.3 percent in 2007.

Those results highly affect the measurement of the relative importance of the STK as percent of the different monetary income aggregates. This is, among other reasons, because relative changes in the STK among the households groups were more pronounced than the ones on primary income and pensions in 2007(400-1st and 5 for the 10th) as compared to 1992. (86-1st and 2 for the 10th)

Methods and Sources of Data

Calculating STK of Education Services

Two main sources were used to calculate STK of education services: the satellite account on education and the household expenditure survey .The satellite account supplied data on: - Production cost of education services generated by general government and NPISH.

- Value of sales to households
- Breakdown of production costs by type of expenditure and level and type of education service.

The household expenditure survey and special processing generated for this study provided the following data:

- Net income of households classified into deciles per standard person.

- Number of students, by decile and type of education services.
- Households' payments for education services, by level and type of education.

Data on average current cost per pupil by level and type of education were obtained from the satellite account. These average costs were assigned to pupils classified by level, type of education and decile.

The use of an average value per pupil in each level of education does not take into account differences in the quality of education services.

Calculating STK of Health Services

STK of health services were calculated using the risk-related insurance policy approach. This approach is convenient for Israel, where all individuals are covered for specified health services. According to this approach, it is not necessary to know who actually receives health services; instead it is assumed that the use of health services depends on risk factors like age, gender, etc. If the health system would charge the consumers, insurance premiums equal to the production costs of the services they are expected to consume, their payments would cover the total costs.

Households' payments to the health system do not cover total cost of the system, but only a part of it. The difference is covered mainly by government and private transfers. STK of health services for each household were estimated as the difference between the imputed "premiums" that households should have paid in order to cover the production costs of the health services, and the payments already made by them. An important change between 2007 and 1992 should be taken into account. The membership fees to sick fund were replaced by a health tax that finances the sick funds allowing covering a basic insurance for anyone.

The main sources used were: satellite accounts on health, household expenditure survey and the Ministry of Health.

Satellite account on Health: The costs of health services provided by general government and private non-profit institutions, and the value of their sales to households were based on the following data:

- Costs of the production of health services by general government and NPISH, by type of expenditure.
- Sales to households.

Data from households' expenditure survey:

- Disposable income of households, classified into deciles
- Payments made by households for health services detailed by item. These payments were classified into payments to market producers and payments to general government and private non-profit institutions by type of payment, based on additional information from various sources.
- Size of households and age composition of the population in each household decile.
- The health section in the last years households' expenditure survey was expanded (in compare to the one in 1992) in order to distinguish between the households' payments made to market and non-market producers.

The Ministry of Health provided the differential premiums coefficients that were used to allocate total production costs of health services covered by non-market producers, among the population in each decile. The Ministry of Health calculated these coefficients by classifying the production costs of the health system by age and gender of individuals effectively attended. On the basis of these coefficients the ministry pays the Sick Funds premiums according with age and gender characteristics of their insured population. It is assumed that the cost of a person of a given age and gender is the same, independently of the income level of the household to which he belongs. This assumption may undervalue the STK received by persons with low income, if their effective cost to the system is higher than that of persons at the same age with high income, provided that the last one uses relatively more services of market producers.

2. Main Conclusions

The analysis of income redistribution processes among different groups of households has traditionally covered mainly the effects of monetary transfers between government and households. It is important to know which groups of households' benefits from the generation of non-market services by general government and NPISH that are effectively consumed by households.

The allocation to households of STK originated on health and education services mostly compensates the growing inequality resulting from the distribution and redistribution process of monetary income for 2007 as shown by the simple indicator used in this note.

Nevertheless, when analyzing the results from a welfare point of view, it is important to take into account the observations made above on how households possibly neither perceive the STK allocation as part of their consumption nor their income.

The current allocation of STK on education and health is also important because it is expected to affect the future distribution of primary income among the different deciles.

ANNEX

TABLE A1. HOUSEHOLDS DISPOSABLE INCOME AND SOCIAL TRANSFERS IN KIND OF EDUCATION AND HEALTH SERVICES, BY DECILES*, 2007

At average prices of 2007

	Average	1	2	3	4	5	6	7	8	9	10
	Montly household's income - NIS										
(1) Primary income and pensions	11,377	1,132	2,287	3,903	5,512	7,735	9,955	12,505	14,335	19,930	34,502
(2) current transfers, receivable **	1,557	1,731	1,908	1,942	1,799	1,463	1,442	1,360	1,317	1,277	1,398
(3) current transfers, payable	2,472	219	299	497	716	1,030	1,454	2,117	2,719	4,697	10,613
(4)=(1)+(2)-(3) Households disposable Income	10,463	2,643	3,896	5,349	6,595	8,168	9,944	11,747	12,933	16,511	25,287
(5) Social transfers in kind on education and health services	2,863	4,523	4,073	3,212	2,978	2,831	2,556	2,555	2,300	1,945	1,657
(6)=(4)+(5) Households adjusted disposable income	13,325	7,166	7,969	8,561	9,573	10,999	12,499	14,302	15,233	18,456	26,944

* Of disposable income per standard person

** Excluding pensions

TABLE A1. HOUSEHOLDS DISPOSABLE INCOME AND SOCIAL TRANSFERS IN KIND OF EDUCATION
AND HEALTH SERVICES, BY DECILES*, 2007

(continued)

	Average	1	2	3	4	5	6	7	8	9	10
	Percentages, each decile compared to the tenth decile										
(1) Primary income and pensions	33.0	3.3	6.6	11.3	16.0	22.4	28.9	36.2	41.5	57.8	100.0
(2) current transfers, receivable **	111.4	123.8	136.5	139.0	128.7	104.7	103.2	97.3	94.2	91.4	100.0
(3) current transfers, payable	23.3	2.1	2.8	4.7	6.7	9.7	13.7	19.9	25.6	44.3	100.0
(4)=(1)+(2)-(3) Households disposable Income	41.4	10.5	15.4	21.2	26.1	32.3	39.3	46.5	51.1	65.3	100.0
(5) Social transfers in kind on education and health services	172.8	272.9	245.8	193.8	179.7	170.8	154.2	154.2	138.8	117.4	100.0
(6)=(4)+(5) Households adjusted disposable income	49.5	26.6	29.6	31.8	35.5	40.8	46.4	53.1	56.5	68.5	100.0

* Of disposable income per standard person

** Excluding pensions

TABLE A1. HOUSEHOLDS DISPOSABLE INCOME AND SOCIAL TRANSFERS IN KIND OF EDUCATION AND HEALTH SERVICES, BY DECILES*, 2007

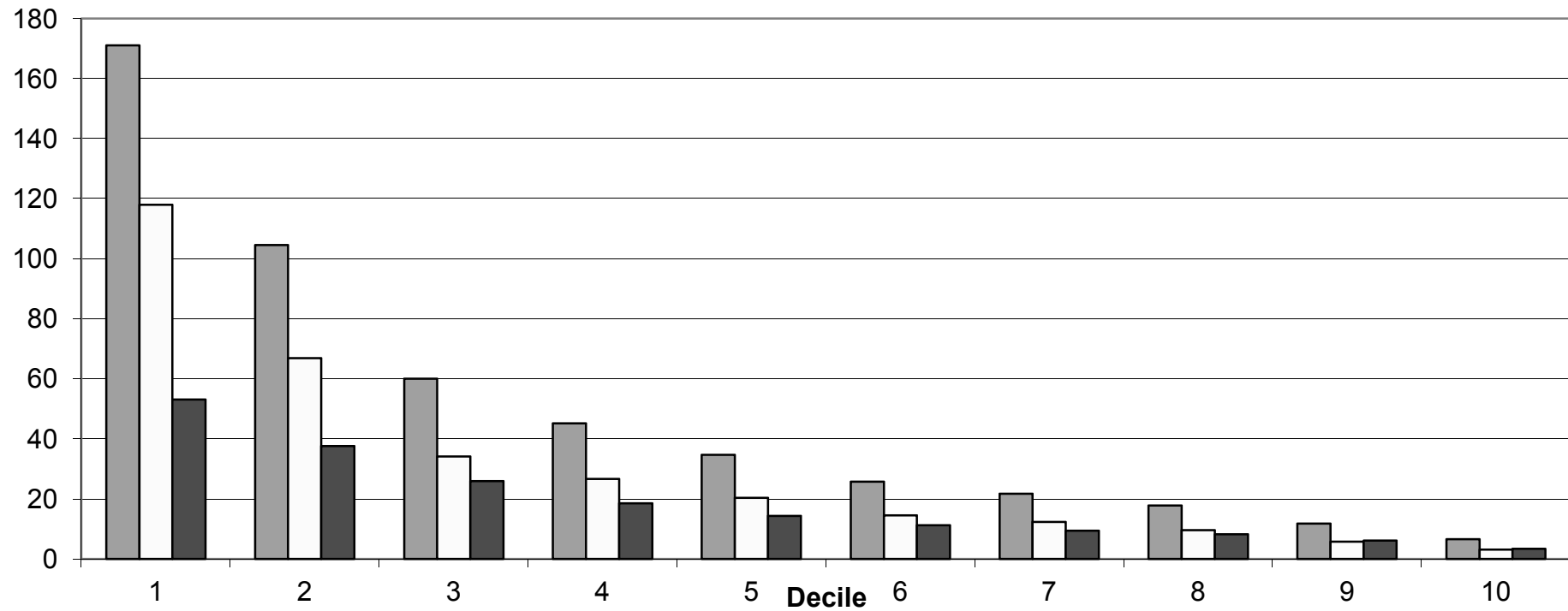
(continued)

	Average	1	2	3	4	5	6	7	8	9	10
	Percentages, each component's share compared to income from work, capital and pensions										
(1) Primary income and pensions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(2) current transfers, receivable **	13.7	152.9	83.4	49.8	32.6	18.9	14.5	10.9	9.2	6.4	4.1
(3) current transfers, payable	21.7	19.4	13.1	12.7	13.0	13.3	14.6	16.9	19.0	23.6	30.8
(4)=(1)+(2)-(3) Households disposable Income	92.0	233.5	170.4	137.0	119.7	105.6	99.9	93.9	90.2	82.8	73.3
(5) Social transfers in kind on education and health services	25.2	399.6	178.1	82.3	54.0	36.6	25.7	20.4	16.0	9.8	4.8
(6)=(4)+(5) Households adjusted disposable income	117.1	633.1	348.5	219.3	173.7	142.2	125.6	114.4	106.3	92.6	78.1

* Of disposable income per standard person

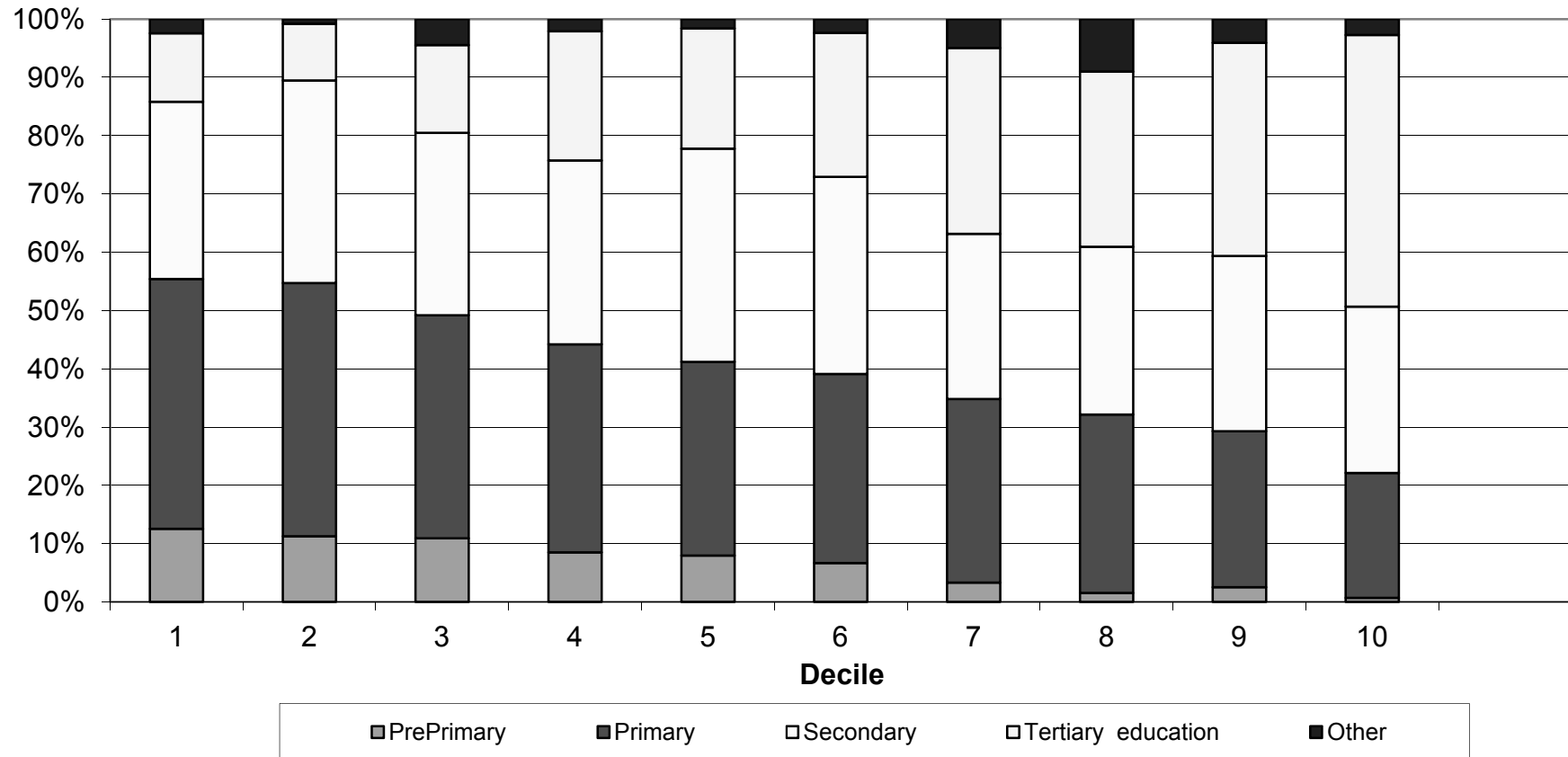
** Excluding pensions

A1. Social Transfers in Kind of Education and Health Services as Percentage of Households' Disposable income, by Decile*, 2007



* of disposable income per standard person

A2. Social Transfers in kind of Education Service to Households, by Decile* and Level of Education, 2007



* of disposable income per standard person