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TRENDS IN POLISH HOUSEHOLD INCOME IN THE YEARS 1993–2005

1. Introduction

Household income is a very important determinant of the living standards and society's consumption level. People's incomes resulting from a specific level of economic development determine consumers' expenditure and savings in a macro-economic scale, at the same time determining a country's possibilities of further economic growth. Thus, the study of people's incomes, their diversification in spatial and dynamic systems as well as their connections with other economic phenomena belongs to the classical issues of economics [Hanusik, Langowska, 1997].

From the micro-economic point of view, a level of obtained income determines a household's economic situation. The household's expenditure on the purchase of goods and services depends on the amount of income. Hence, income in the majority of households determines the degree of needs satisfaction, which is the result of the consumption of goods and services and of the functioning in a specific social, natural and political environment, *i.e.* it determines a household's living standard.

In Poland, after 1989, a process of the transformation of the socio-economic system was initiated. Its aim was the formation of a developed market economy in the country. At its initial stage, the transformation of Poland's socio-economic system caused a considerable deterioration in people's living standards. In 1989, as a result of the liberalization of food prices, hyper-inflation and strong economic recession took place, and consequently, the living standards lowered significantly. Such tendencies had lasted until 1993. In this period, people's real income diminished; in 1993, incomes were merely 42% of those in 1989 [Kramer, 1997].

In 1994, the economic situation began to stabilize, and later, until 1997, its basic measures were rising. People's real incomes were also growing; in 1997, the increase was over 16% in comparison to the level of 1993. After 1997 the economic growth slowed down, and in 2003 some symptoms of improvement in the economic growth could be observed (cf. Table 1, and Fig. Fig. 1 and 2).

In this study, household income is the object of an analysis, with emphasis on the changes in its level and structure, as well as its diversification in space in Poland in the years 1993–2005.

The research aims at identification of changes in the diversification scale of household income in the analyzed period. An assumption has been adopted that it is possible to observe tendencies towards the diversification of the level of household income typical of the market economy, and the increase in the number of households facing pauperization is mainly the result of structural transformations in the economy, unemployment or the lack of an effective social and economic policy.

2. Trends in the levels of household income in the years 1993–2005

The trends in total median monthly income and in particular household groups in the analyzed period are presented in Table 2 and in Fig. 3.

In the years 1993–2005 there was a small increase in the median real income of Polish households; it was 16.6%. The average annual increase was 3.7% in the first five years of the analyzed period, whereas in the years 1997–2000 a decrease in the median real income of Polish households of 1.2% a year was observed. After the year 2000 the household income began to rise very slowly, at the rate of 0.7% a year.

The trends in the households' real income were considerably diversified, however, depending on the place of residence. In 1993, the lowest incomes were obtained by the households of people living in towns inhabited by fewer than 20,000 people. Next on the list there were the households of people living in villages and in medium-sized towns. The highest incomes in 1993 were obtained by households in big cities. It should be stressed that the differences at that time were not very big. Until 1997 the above mentioned sequence of households had not changed considerably, although the greatest increase in incomes had been observed in the households of people living in the biggest cities.

In 1998, the incomes of nearly all socioeconomic groups of households fell on average by almost 4%. This caused a decrease in household incomes both in villages and in towns, the only exception being the households in big cities. In the years 1999–2000 the average level of real household incomes with respect to the place of residence was in stagnation. In 2003, a visible improvement in the

Table 1. The basic measures of Poland's economic standing in the years 1993–2005 (chain dynamics indexes)

Specification	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross national product (dynamics index 1990 = 100%)	98.1	103.0	111.4	116.6	124.4	130.4	139.0	144.8	146.4	148.4	154.0	162.2	167.9
National demand (dynamics index 1990 = 100%)	105.4	110.1	118.8	129.0	140.9	149.9	159.3	164.2	161.9	163.4	167.8	177.9	182.2
In which:													
Consumption (dynamics index 1990 = 100%)	115.6	119.9	125.1	132.4	140.3	146.1	156.0	160.4	163.9	168.7	172.9	179.8	184.5
Accumulation (dynamics index 1990 = 100%)	77.5	84.2	106.1	124.7	150.5	171.3	184.8	192.0	166.3	154.3	159.4	182.8	185.4
Median monthly real salary dynamics index 1992 = 100%)	99.7	101.3	104.2	109.9	116.4	120.3	126.0	127.2	130.4	131.3	135.7	136.6	139.0
Working people, yearly average (dynamics index 1993 = 100%)	100.0%	101.0%	102.8%	104.8%	107.7%	110.3%	107.3%	104.8%	104.1%	88.8%	88.4%	88.0%	89.2%
Employed people, yearly average (dynamics index 1993 = 100%)	100.0%	99.4%	102.1%	103.5%	106.4%	107.7%	105.2%	102.1%	98.8%	95.3%	94.5%	94.3%	95.9%
Rate of registered unemployment (dynamics index 1993 = 100%)	100.0%	97.6%	90.9%	80.5%	62.8%	63.4%	79.9%	92.1%	106.7%	122.0%	122.0%	115.9%	107.3%

Source: author's own material prepared on the basis of the *Statistical Yearbook* issued by the Central Statistical Office in the years 2000 and 2006

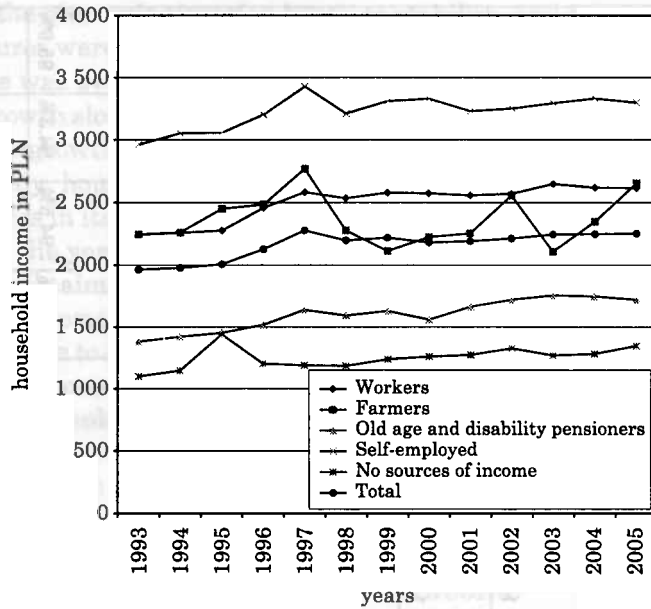


Fig. 1. The dynamics of the basic measures of Poland's economic standing in the years 1993–2005 (prices of 2005)

Source: author's own material prepared on the basis of the *Statistical Yearbook* issued by the Central Statistical Office in the years 1993–2005

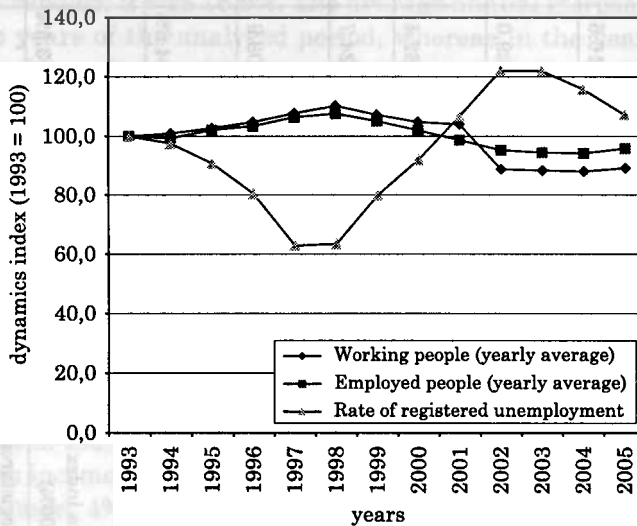


Fig. 2. Changes in Poland's labor market in the years 1993–2005

Source: author's own material prepared on the basis of the *Statistical Yearbook* issued by the Central Statistical Office in the years 1993–2005

Table 2. The real monthly household incomes in Poland in the years 1993-2005 (prices of 2005)

Specification	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	Income in PLN												
Total cities and towns	1987	2014	2022	2171	2342	2287	2322	2291	2300	2320	2501	2422	2362
Cities over 500,000	*	2112	2140	2349	2617	2643	2743	2748	2693	2713	3025	2958	2801
Cities 200,000-500,000	2102	2140	2096	2226	2368	2301	2334	2339	2336	2382	2536	2411	2433
Cities 100,000-200,000	1959	2026	2040	2112	2355	2228	2290	2285	2271	2232	2340	2226	2231
Towns 20,000-100,000	1932	1937	1980	2174	2229	2188	2204	2154	2187	2205	2341	2317	2254
Towns below 20,000	1867	1916	1890	1951	2183	2067	2050	2074	2044	2078	2256	2146	2077
Villages	1952	1931	1997	2058	2158	2019	2010	1973	1992	2005	2113	2040	2078
	Income ratio %												
Total cities and towns/villages	102	104	101	105	109	113	116	116	115	116	118	119	114
Total cities and towns/cities over 500,000	*	95	94	92	89	87	85	83	85	86	83	82	84
Total cities and towns/cities 200,000-500,000	95	94	96	98	99	99	99	98	98	97	99	100	97
Total cities and towns/cities 100,000-200,000	101	99	99	103	99	103	101	100	101	104	107	109	106
Total cities and towns/towns 20,000-100,000	103	104	102	100	105	105	105	106	105	105	107	105	105
Total cities/towns below 20,000	106	105	107	111	107	111	113	110	113	112	111	113	114

Source: author's own material prepared on the basis of data from the panel research conducted by the Central Statistical Office on household budgets in the years 1993-2005

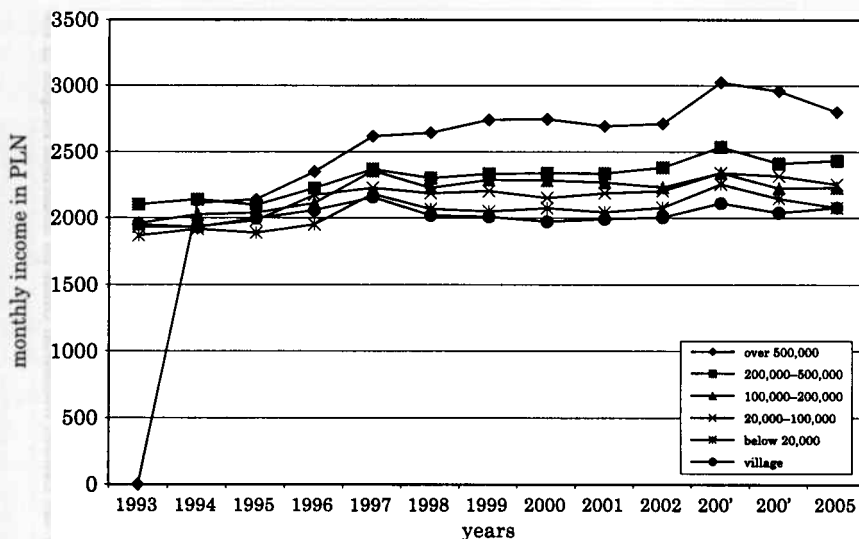


Fig. 3. Median monthly household income in Poland in the years 1993–2005 with respect to the place of residence (prices of 2005)

Source: author's own material prepared on the basis of data from the panel research conducted by the Central Statistical Office into household budgets in the years 1993–2005

income levels was noticed, especially in the households in big cities and conurbations, but already in the following years the household incomes were lower.

In the analyzed period the income situation of the households of people living in villages and in small and medium-sized towns was improved relatively least of all. The greatest increase in real incomes was observed in cities inhabited by more than 500,000 people.

In order to determine the average yearly changes in the amounts of household incomes in the analyzed period, additionally exponential functions of trends were created; they are presented in Table 3.

Thus, in the analyzed period the real incomes of town households in Poland rose on average by 1.6% annually. The incomes of households in big conurbations rose at a faster rate than the average (by 2.8% annually). The increase in the incomes of the other groups of town households was at the level of 1.1–1.4% annually.

The incomes of village households rose at the slowest rate – by 0.3% annually, and what is important, they were subject to fluctuations in the analyzed period. This had some influence on the low level of the explanation of the estimated trend function for this group of households.

The results of the analysis of the changes in the level of household incomes in Poland in the years 1993–2005 allow to ascertain that there was an improvement in the households' material situation. The total real household incomes

Table 3. The models of the rising tendencies in monthly household incomes in Poland in the years 1993–2005, with respect to the place of residence $y = ae^{bt}$ (y – median household income; t – time variable; a , b – parameters; e – constant)

Household type	Parameter a	Parameter b	Coefficient R ²
Total cities and towns	2008,2	0,016	0,79
Cities over 500,000	2177,4	0,028	0,77
Cities 200,000–500,000	2098,8	0,013	0,80
Cities 100,000–200,000	2039,9	0,011	0,50
Towns 20,000–100,000	1961,6	0,014	0,71
Towns below 20,000	1893,5	0,011	0,56
Villages	1976,9	0,003	0,18

Source: author's own material prepared on the basis of the representative research conducted on household budgets Poland in the years 1993–2005

rose within the 13-year period by 15%, and the incomes *per capita* – by 25%, which corresponds to a relatively low average yearly increase of about 2%. Such an increase rate is practically unnoticeable for consumers.

It is worth mentioning here that an increase in household incomes in the analyzed period was accompanied by their smaller diversification with respect to the socioeconomic groups.

3. Directions of diversification of household incomes in Poland in the years 1994–2005¹

The analysis of the trends in median household incomes and the study of their tendencies do not allow estimating the changes concerning the diversification in household incomes with respect to the place of residence. In the study of the scale of the diversification of incomes, an analysis of the distribution of incomes was applied.

Household incomes in the years 1994 and 2005 have undergone a detailed analysis. The result is a theoretical logarithmic-normal distribution well matching the empirical distributions. The results of performed calculations are illustrated in Table 4 as well as in Fig. 4 and 5.

The distributions of the median real household incomes have the character of left-inclined logarithmic-normal distributions, which means that most of the household incomes are below the average level.

¹ The year 1994 was adopted as the initial one in this analysis because of the additional class of cities with more than 500 000 inhabitants being distinguished in the information of the Central Statistical Office.

Table 4. The empiric distributions of median real monthly household incomes in Poland in the years 1994 and 2005, with respect to the place of residence (frequencies in %)

Income class in PLN	Cities over 500,000		Cities 200,000–500,000		Cities 100,000–200,000		Towns 20,000–100,000		Towns below 20,000		Villages	
	1994	2005	1994	2005	1994	2005	1994	2005	1994	2005	1994	2005
Below 200	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.03	0.01	0.15	0.05
200–400	0.91	0.61	0.73	0.34	0.55	0.39	0.69	0.29	1.02	0.61	2.38	1.19
400–600	3.53	2.22	3.13	1.78	2.79	2.08	3.33	1.76	4.09	2.85	6.10	3.97
600–800	6.35	4.04	5.98	3.92	5.82	4.55	6.64	4.15	7.35	5.69	8.60	6.61
800–1000	8.19	5.43	8.00	5.83	8.15	6.67	8.98	6.37	9.33	7.83	9.52	8.17
1000–1200	8.94	6.26	8.92	7.10	9.32	7.96	9.96	7.83	9.96	8.88	9.38	8.70
1200–1400	8.88	6.60	8.99	7.68	9.49	8.45	9.89	8.47	9.65	9.05	8.68	8.53
1400–1600	8.33	6.59	8.51	7.73	9.01	8.33	9.19	8.46	8.83	8.63	7.74	7.95
1600–1800	7.54	6.34	7.75	7.43	8.18	7.84	8.18	8.03	7.79	7.89	6.76	7.19
1800–2000	6.67	5.96	6.87	6.91	7.21	7.14	7.08	7.36	6.72	7.02	5.82	6.38
2000–2200	5.82	5.52	6.00	6.29	6.23	6.38	6.03	6.58	5.71	6.13	4.98	5.58
2200–2400	5.02	5.05	5.17	5.64	5.31	5.60	5.06	5.79	4.81	5.29	4.24	4.84
2400–2600	4.30	4.58	4.43	5.00	4.49	4.88	4.22	5.04	4.02	4.52	3.61	4.18
2600–2800	3.67	4.13	3.77	4.40	3.78	4.21	3.51	4.34	3.35	3.85	3.06	3.60
2800–3000	3.13	3.71	3.20	3.85	3.16	3.62	2.90	3.73	2.79	3.26	2.60	3.09
3000–3200	2.66	3.33	2.71	3.36	2.64	3.10	2.40	3.18	2.32	2.76	2.21	2.65
3200–3400	2.26	2.98	2.30	2.92	2.21	2.65	1.98	2.71	1.93	2.33	1.89	2.28
3400–3600	1.92	2.66	1.95	2.53	1.84	2.27	1.64	2.31	1.61	1.97	1.61	1.96
3600–3800	1.64	2.38	1.65	2.20	1.54	1.93	1.35	1.96	1.34	1.66	1.38	1.68
3800–4000	1.39	2.12	1.40	1.90	1.28	1.65	1.12	1.67	1.12	1.41	1.18	1.45
4000–4200	1.19	1.90	1.19	1.65	1.07	1.41	0.93	1.42	0.94	1.19	1.01	1.25
4200–4400	1.02	1.70	1.01	1.43	0.90	1.21	0.77	1.20	0.79	1.01	0.87	1.08
4400–4600	0.87	1.52	0.86	1.24	0.75	1.03	0.64	1.03	0.66	0.86	0.75	0.93
4600–4800	0.75	1.36	0.74	1.08	0.63	0.88	0.54	0.87	0.56	0.73	0.65	0.81
4800–5000	0.64	1.22	0.63	0.94	0.53	0.76	0.45	0.75	0.47	0.62	0.57	0.70
5000–5200	0.55	1.09	0.54	0.82	0.45	0.65	0.38	0.64	0.40	0.53	0.49	0.61
5200–5400	0.48	0.98	0.46	0.71	0.38	0.56	0.32	0.55	0.34	0.45	0.43	0.53
5400–5600	0.41	0.88	0.40	0.62	0.32	0.48	0.27	0.47	0.29	0.39	0.37	0.46
5600–5800	0.36	0.79	0.34	0.54	0.27	0.42	0.22	0.40	0.24	0.33	0.33	0.41
Ponad 5800	2.56	8.04	2.36	4.15	1.69	2.89	1.33	2.65	1.55	2.23	2.63	3.19

Source: author's own material prepared on the basis of data from the representative research conducted by the Central Statistical Office on household budgets in the years 1993–2005

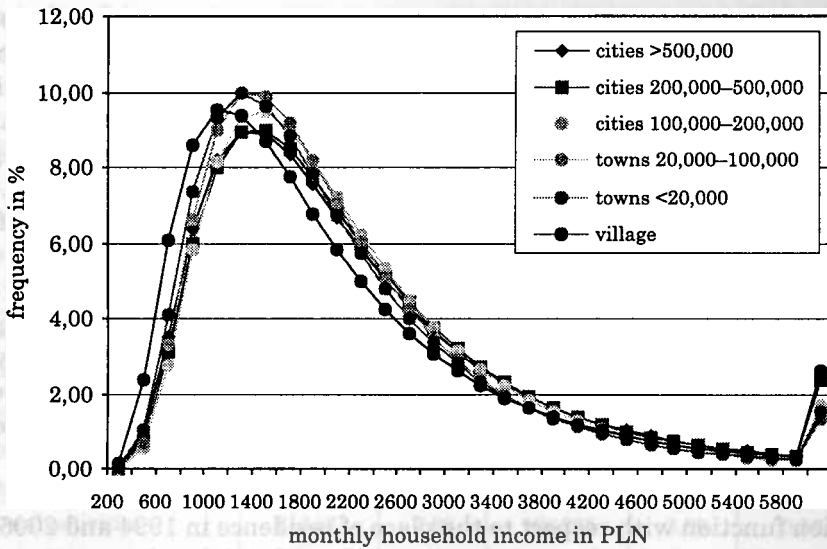


Fig. 4. The distribution of median monthly household income in Poland in 1994 with respect to the place of residence (prices of 2005)

Source: author's own material prepared on the basis of data from the panel research conducted by the Central Statistical Office into household budgets in the years 1993–2005

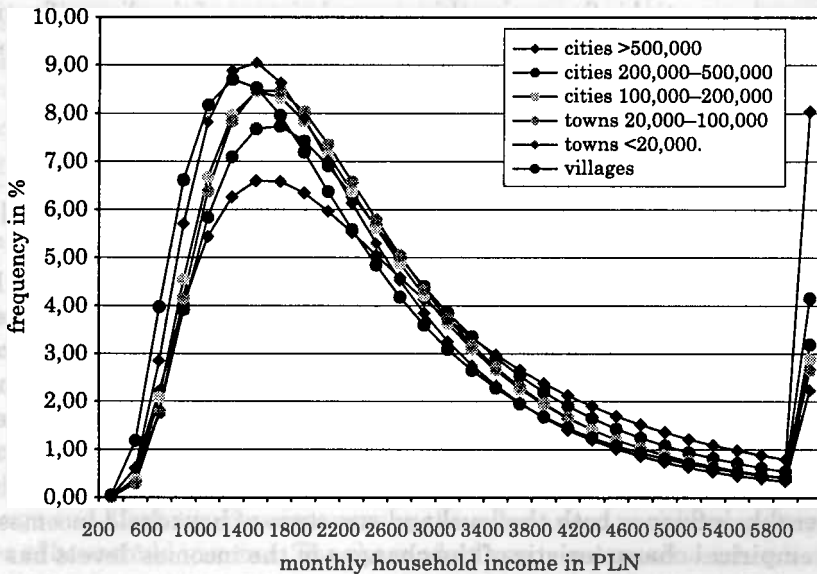


Fig. 5. The distribution of median monthly household income in Poland in 2005 with respect to the place of residence (prices of 2005)

Source: author's own material prepared on the basis of data from the panel research conducted by the Central Statistical Office on household budgets in the years 1993–2005

The distributions of the median monthly real household incomes in Poland in 1994 were not much diversified with respect to the place of residence. However, the leftmost function of the density of village household incomes' distribution indicates that these were the poorest households. The most right and flat functions of the density of income distribution were characteristic of big cities and conurbations. This means that the number of urban households, whose incomes were above average, was relatively the biggest, and the diversification of their incomes was the lowest.

In 2005, the hierarchy of households as regards a city's size was very clearly established. The smaller the city, the slimmer and more left-shifted the distribution function, which means that people living there have relatively lower incomes and their incomes diversification is higher. The differences between the incomes of the relatively poor households in villages and the relatively rich households in conurbations are especially visible.

The comparison of the changes in the shape of the household incomes' distribution function with respect to the place of residence in 1994 and 2005 shows that in this period a flattening and a shift to the right of respective density functions occurred in all of the specified household classes (cf. Fig. Fig. 4 and 5). This indicates, above all, a higher proportion of richer households achieving higher incomes. It concerns all types of the socioeconomic households of people living in cities and in villages.

The most essential influence on this general picture of the diversification of household incomes in Poland is exerted by the incomes of the most numerous household group, *i.e.* workers' households.

4. Changes in the sources of household incomes in the conditions of the developing market economy in Poland

The phenomena occurring in Poland's socioeconomic system after 1989 led to significant changes in the economy's branch structure, to an increase in the proportion of private property in the economy, to the growth of people's entrepreneurship, *i.e.* to many positive changes characteristic of the market economy. Negative effects of the country's economic restructuring could also be observed in this period, *e.g.* intensifying differences in people's individual wealth, the appearance of unemployment and its enormous growth. These changes should considerably influence both the level and structure of household incomes.

The empirical characteristic of the changes in the incomes' levels has been presented above. In this part of the study, the results of the research into the changes in the structure of the sources of household incomes are discussed. The years 1995 and 2005 have been compared on account of the availability of comparable data on the classification of the sources of household incomes.

The results of the analysis of the sources of household incomes and revenues in Poland are presented in Table 5.

Table 5. Changes in the structure of median real monthly household incomes in Poland in the years 1995 and 2005 (prices of 2005)

Sources of household incomes	Incomes per 1000 households in 1995	Share in total incomes %	Incomes per 1000 households in 2005	Share in total incomes %	Change ratio 2005/1995
Permanent hired labor	882 006	32.60	1 018 522	33.80	1.15
Temporary hired labor	36 017	1.33	33 634	1.12	0.93
Self-employment	133 730	4.94	183 941	6.10	1.38
Property	2 375	0.09	923	0.03	0.39
Real estate renting	2 304	0.09	6 081	0.20	2.64
Agricultural activities	213 573	7.89	120 295	3.99	0.56
Old age pensions	321 758	11.89	439 319	14.58	1.37
Disability benefits	196 933	7.28	178 718	5.93	0.91
Unemployment benefits	46 242	1.71	12 976	0.43	0.28
Other social security and assistance benefits	77 224	2.85	128 365	4.26	1.66
Others	90 477	3.34	130 355	4.33	1.44
Sale of personal property and used consumption goods	11 101	0.41	5 965	0.20	0.54
Financial activities	140 455	5.19	200 777	6.66	1.43
Cash from previous months	551 682	20.39	553 815	18.38	1.00

Source: author's own material prepared on the basis of data from the representative research conducted by the Central Statistical Office on household budgets in the years 1993–2005

The basic source of household incomes in Poland is permanent and temporary hired labor, and its importance grew steadily in the analyzed period of 10 years, which can be indicated by an increase in their share in total household incomes from less than 34% to almost 35%. It should be noted that the share of incomes from permanent hired labor has been rising the fastest, whereas the share of incomes from temporary hired labor has been falling.

Old age and disability pensions occupy the subsequent positions as the major sources of household incomes. The share of old age pensions showed an increasing tendency from almost 12% to more than 14.5%, whereas disability pensions in the analyzed period showed a decreasing tendency by more than 1.5%.

In 1995, incomes from agricultural activities constituted almost 8% in the structure of household incomes, and this share fell to almost 4% within the

decade. This is undoubtedly the result of a decrease in the number of farmsteads in the country brought about by changes taking place in the rural environment.

In the years 1995–2005, the importance of income sources typical of the market economy such as self-employment, financial revenues and real property renting grew considerably. Incomes from tenement house renting grew relatively the most, more than twice and a half, but their share in total household incomes is still quite small – 0.2% in 2005.

A decrease in the share of unemployment benefits as a source of household incomes and the simultaneous increase in the rate of unemployment in the analyzed period are disturbing phenomena as they indicate the appearance of long-term unemployment resulting in the loss of unemployment benefits. In consequence, it is accompanied by a higher level of social security benefits.

In the years 1995–2005, despite a slight increase in real household incomes, the share of current savings, *i.e.* cash remaining from the previous months, fell by 2%.

5. Summary

It should be stated that the changes in the level and diversification of household incomes in Poland in the years 1993–2005 were the derivative of the economy's fluctuation. The period of economic prosperity of the years 1993–1997 resulted in the improvement in income levels and distribution in all of the specified household groups. A decrease in the rate of economic growth in 1998 and the following four years caused a considerable slowdown in the growth of real household incomes in Poland. It should be stressed, however, that after 2002, real incomes grew practically in conurbations only.

In the analyzed period, obvious changes in the structure of household incomes in Poland were observed. The most spectacular was the fall in the share of incomes from agricultural activities in total household incomes. It indicates a declining role of agriculture in Poland's gross national product.

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