

ECONOMICS*Sociology*

Chmielewska, B., Chmielewski, L., & Remsei, S. (2024). Changes in household income after Poland's accession to the European Union. *Economics and Sociology*, 17(4), 295-314. doi:10.14254/2071-789X.2024/17-4/16

**CHANGES IN HOUSEHOLD
INCOME AFTER POLAND'S
ACCESSION TO THE EUROPEAN
UNION****Barbara Chmielewska**

*The Institute of Agricultural and
Food Economics - National
Research Institute,
Warsaw, Poland*

E-mail:

barbara.chmielewska@ierigz.waw.pl
ORCID 0000-0003-1609-4809

Łukasz Chmielewski

*The Institute of Agricultural and
Food Economics - National
Research Institute,
Warsaw, Poland*

E-mail:

lukasz.chmielewski@ierigz.waw.pl
ORCID 0000-0002-9558-6328

Sándor Remsei

*Faculty of Economics,
Széchenyi István University,
Hungary*

E-mail: sandor@remsei.hu

ORCID 0000-0001-8862-4544

ABSTRACT. Income is crucial to meeting life's needs.

Changes in its size and structure are fundamental determinants of living standards in the countryside. The article presents an analysis of the economic situation of inhabitants of rural areas during the period of Poland's integration with the European Union (years 2002-2022 or 2004-2022). The main indicators are the level, structure and relations of income. Households of basic socio-economic groups and by place of residence (rural and urban) were compared. The study showed convergence of the standard of living of rural and urban inhabitants and of farmers and other groups of households. Convergence was primarily the result of a higher dynamics of income growth of rural inhabitants than of urban inhabitants and farmers compared to other groups of households. This was mainly the result of significant financial support directed to rural areas and farmers, among others, within the framework of the common agricultural policy. The 20th anniversary of Poland's accession to the European Union is an opportunity to sum up and assess how Poland's membership in the EU has affected the standard and quality of life of the Polish population, especially the inhabitants of rural areas.

Received: January, 2024

1st Revision: October, 2024

Accepted: December, 2024

DOI: 10.14254/2071-
789X.2024/17-4/16

JEL Classification: D1, D71,
J24

Keywords: disposable income of households, Poland's integration with the European Union

Introduction

The accession of ten countries (Poland, the Czech Republic, Slovakia, Hungary, Lithuania, Latvia, Estonia, Slovenia, Malta and Cyprus) to the European Union in 2004 was the largest enlargement of the Community in its history to date. It was an event of great historical, geopolitical, economic and social significance. It meant the symbolic unification of Europe after decades of divisions caused by difficult chapters in the history of 20th-century Europe, including Poland. The anniversary of Poland's accession to the European Union is also an opportunity to assess whether and how Poland's membership in the EU has influenced changes in the standard and quality of life of our country's population, especially the inhabitants of rural areas.

The basic determinant of the development and building of the standard and quality of life of every person is income. It has a fundamental impact on their decisions regarding the fulfilment of needs, both basic for their existence, i.e. food, clothing and housing conditions, as well as higher-order needs, important especially for the development of the entire family, such as, among others, access to social services, including healthcare and education for children, and to modern communication technologies. Besides, income has an important indirect effect through multiplicative influence on economic growth and funding state social programs (Yurchyk et al., 2024; Vasylyeva et al., 2023) and contributing to eradicating inequality in case of appropriate distributive practices (Mishchuk et al., 2018; Tkacova et al., 2024). Participation in culture and leisure, position on the labour market, and the state of the natural environment are also important.

The subject of the analysis is primarily changes in the level and structure of household income. Income is of fundamental importance for shaping the conditions and quality of life of the population. It is financial resources that can be used to purchase goods and services, which has an impact on the ability to meet human needs. During Poland's integration with the EU, there was a gradual improvement in the income situation of families, with the highest growth dynamics characteristic of farming and rural families, which led to them overcoming the disparity in living conditions and quality of life between families living mainly from non-agricultural sources and city dwellers.

The lack of a universal system for recording income, especially in agriculture, is a difficulty in correctly determining the level of income. Therefore, in assessing the economic situation of households, the structure of income sources, trends in change over time, comparisons between socio-economic groups of households and place of residence (village and city) are important.

Although many problems have not been solved during the 20 years of Poland's presence in the EU structures, especially those concerning several hundred thousand small farms that have not withdrawn from agriculture but at the same time do not have the conditions to develop their farms, the general assessment of the impact of Poland's membership in the EU on the agricultural sector and the population associated with agriculture is positive. The disparity in income of rural households has decreased compared to urban households, and agricultural households compared to other basic economic and social groups, but there is still income differentiation between them.

1. Literature review

Poland's integration with the European Union was preceded by a period of transformation, which began in our country in 1989 with the liberalization of the market. Central control of the economy was abandoned in favor of the introduction of a market

economy. This change had a multifaceted impact on the economic, economic and social situation in the country, especially on the standard of living of the population, especially families associated with agriculture. In the agricultural sector, state farms were liquidated, which "did not fit the market". This decision contained two fundamental errors. The first mistake was the failure to take into account the human factor, as many families were deprived of their primary source of income in a situation of growing unemployment on the non-agricultural labor market. There were no alternative sources of income waiting for these people. Unemployment in the areas of former state farms was the highest in the country and in some counties even exceeded 40%. The second mistake was the omission of the fact that some farms were in good economic condition and after reform could adapt to the new economic reality.

The situation in the entire economy has a direct reference to the position of agriculture, because the low rate of economic growth meant a low level of income for the population, which in turn caused low consumer demand. Low demand, especially for food of domestic origin, caused prices received by farmers to decrease, which decreased their income. Income disparities also increased between farms with different areas of agricultural land and between households of different economic and social groups. Developed and large farms benefited more from the transition to a market economy. This was also confirmed by income studies conducted in rural farms in the EU. They showed that market instruments stimulated income growth, with high-income farms receiving more than half of the resulting income. The poorest farms saw the smallest increase in income, which indicates limited possibilities of shaping the income of the poorest families through the market. The unfavourable distribution of income from the point of view of equal distribution was closely related to the possession of the means of production (Leatherman J.C., Marcouiller D.W., 1996, pp. 434-459). Differences in the economic potential of farms and their differentiation in production resources were given as the basic reasons for differences in the level of income of farmers' farms (von Witzke, 1984, pp. 65-83; Schmidt, 1993, 189-199).

The new reality meant the need to increase the efficiency of management, and this could be carried out either evolutionarily, with the priority of protecting the standard of living of the society, or through the so-called "shock therapy". In Poland, the latter solution was chosen. It was expressed in high social costs in the form of a rapid increase in prices, a decrease in production and income of the population, and a high unemployment rate. For many social groups expecting an improvement in living conditions, the transformation brought a continuation of the process of lowering the standard of living (which began in the second half of the seventies and lasted practically throughout the entire decade of the eighties). Farmers were the social group that was most burdened with the costs of the systemic transformation (Zegar, 2002, pp. 61-71). There was a "deep decline in the income of the peasant population" (Zegar, 2000, p. 71). "It is estimated that the parity of agricultural income in 1990 fell to 69% of the average income in the country" (Bański, 2007, p. 13), while in 1979 this indicator amounted to 94% (Grochowski, 1980).

The deterioration of the economic conditions of agriculture and the income situation of the rural population occurred "in terms of the level of income and its differentiation" (Tomczak, 2005, p. 229). Farms associated with agriculture were the ones that became the most impoverished in relation to the average level in the country (Chmielewska, 2004, p. 112). "From 1989 to 1992, income in farmers' households fell by 47%, while in employees' households by 27%" (Zegar, 2002, pp. 61-71). The decrease in income and the increase in its differentiation in families associated with agriculture were also confirmed by A. Szemberg's research, which showed that the decrease in income occurred in all area groups, with the number of high-income households decreasing and the number of low-income households increasing. The most impoverished were the medium-sized farms (5-10 ha) (Szemberg, 1993, pp. 24-34). L. Klank

also showed the uneven distribution of income within socio-economic groups – the most uneven distribution of income was characteristic of the group of farmers. He emphasized the role of income from outside agriculture in leveling the differences in per-personal income of families using farms (Klank, 1987, pp. 67-81). However, the obstacle was the difficulty in finding alternative sources of income to agriculture in rural areas (Rosner, 2000, pp. 57-60 (Klank 1987, pp. 67-81). Similarly, M. Ignar drew attention to the significantly greater differentiation of income in peasant households compared to other professional or social groups; the percentages of farming and working families with high income were very similar, while the percentage of farming families with low income was much higher than in the remaining groups of farms (Ignar, 1983, p. 34). J. Paszkowski's research confirmed the "intensification of income polarization of farms - the shares of units with the lowest level of agricultural income in total income increased and increased at the opposite (extreme) end of the scale" (Paszkowski, 2005, p. 6). The process of income stratification between farms, as indicated by Cz. Farkowski, is characteristic of the capitalist economy in the period of its development (Farkowski, 1984, p. 129).

A. Woś pointed out that the decline in income from agriculture occurred together with the growth of rural unemployment, which resulted in the growth of social farms, which based their budget increasingly on social benefits and allowances. In his opinion, farms were divided into agricultural and social farms (Woś, 2002, p. 15). The latter, as W. Michna reported, dominated mainly in regions with a fragmented agrarian structure. Farms with higher incomes were located in the northern region, where large-area farms predominated (Michna, 2009, pp. 104-111). W. Michna pointed to the need for the state to pursue a policy consisting of supporting the model of commercial agriculture on the one hand, and non-agricultural activities in rural areas on the other, which is in line with the model of dual-profession agriculture (Michna, 2002, pp. 31-47). The issue of pluriactivity in farming families and in the countryside was widely discussed by Bład (2011, p. 117) and Nassar et al. (2023).

Agriculture is a specific type of manufacturing activity, which in many segments is definitely different from industrial activity. "Agriculture, as a raw material branch, is distant from the final purchaser in the flow chain. It is not so much about spatial distance, but economic" (Czyżewski, Poczta-Wajda, 2011, p. 25). "The competitive position of agriculture is 15-20% worse in relation to non-agricultural sectors of the national economy. This can also be interpreted as a measure of the disparity situation of agriculture, or its competitive ability on the domestic market" (Woś, 2000, p. 13). "The problem of depreciation of the agricultural sector by the market mechanism is manifested by the fact that agriculture does not realize the entire added value that it creates" (Czyżewski, Matuszczak, 2012, p. 30). The negative effects of this state of affairs indicate that the market mechanism alone is not able to cope with the problems of agriculture, in particular the issue of peasant income" (Zegar, 2000, p. 12). Similarly, A. Czyżewski and A. Poczta-Wajda pointed out that "agriculture in the conditions of a market economy is a weaker partner in relation to the non-agricultural environment (...)" (Czyżewski, Poczta-Wajda, 2011, p. 26) and requires intervention measures. "In countries with stable and balanced economic growth – wrote A. Czyżewski and A. Matuszczak – it has long been noticed that it is necessary to retransfer to farmers that part of the surplus that flows out of agriculture by implementing a specific support and subsidy policy" (Czyżewski, Matuszczak, 2005, pp. 11-23). The literature on the subject has indicated for many years that the policy of supporting agriculture should also include the process of scientific and technical innovation. Implementing the results of scientific research will help farmers modernize production, reduce costs in the direction of social optimality (Ruttan, Hayami, [http.](http://), p. 137).

The period of transformation brought a deterioration in the income situation of families associated with agriculture. It was expected that the aid funds that would flow from the EU in

connection with Poland's accession to the European Union would contribute to the improvement of the income situation of farms and in rural areas, among others in the area of infrastructure and the development of small and medium-sized economic entities. The predictions came true. Thanks to various forms of aid, there was a significant improvement in the condition of technical equipment in rural areas, and financial support in the form of direct payments to farms was primarily decisive for the increase in agricultural income. This was also a relatively high increase, but at the same time very diversified, because first of all, farms received payments for each hectare of land. Although this mechanism slowed down agrarian changes and did not significantly improve the situation of small farms, of which there are the most in Poland, i.e. those of small and medium area, especially in the initial period, subsidies plus income from cultivated land provided social security to many smaller, poorer farmers (Woś, 2005, p. 32; Poczta, 2009, p. 22).

In the first years of integration, B. Klepacki pointed out that "in Polish agriculture alone, three groups of farms will develop. One are small farms located near non-agricultural workplaces, run by people who do not link their future with agriculture, although they treat their farms as a place of life, with a certain sentiment or as an investment of capital. The second group are intensive farms, with a growing area, investing, run by increasingly better educated farmers, open to knowledge, closely linked to the market or processing. The third group will consist of large-area farms, engaged in simplified production on a large scale, easy to mechanize, requiring little labor input, e.g. production of cereals, oil plants and legumes (technologically uniform)" (Klepacki, 2005, p. 85). After several years of accession, the direction of changes in the agrarian structure in Polish agriculture seems to confirm the fulfillment of the above predictions.

In Poland, a significant number of families whose income from the farm is low are still associated with semi-subsistence, unprofitable farms. It was pointed out at that time that if the appropriate income of the agricultural population is not secured, each farmer will look for work outside his farm. Therefore, in connection with the agricultural sector, multiskilling has an important role to play as an additional source of income for families associated with agriculture, which is already a permanent phenomenon in Poland (Błąd, 2011, p. 117; Turowski, 1992, p. 89; Kolbusz cited in Błąd, 2011, p. 116). The durability of the pluriactivity process in Polish agriculture, as well as in the EU, indicates at the same time the importance of the non-agricultural labor market in shaping the income situation of the population using agricultural farms. The development of multioccupational farms will, however, be determined by the level of infrastructure development and the distance from the place of residence to the place of work, because "in the case of longer commuting, from the economic point of view, permanent migration is more desirable than shuttle migration" (Muszyński, 1976).

Although many problems have not been solved during Poland's 20-year presence in the EU structures, especially those concerning several hundred thousand small farms that have not withdrawn from agriculture but at the same time do not have the conditions to develop their farms, the overall assessment of the impact of Poland's membership in the EU on the agricultural sector and the population associated with agriculture is positive. Overall, the disparity in income and expenditure of rural households has decreased compared to urban ones, and agricultural households compared to other basic economic and social groups, but there is still a difference in the level and quality of life between them. The disparity in income and expenditure also persists. This situation is typical not only for Poland (Wong et al., 2023). The disparity in technical and social infrastructure and in terms of educational opportunities continues to persist. This situation mainly concerns areas located far from urban centers (Chmielewska, Zegar, 2024, pp. 69-85). Taking into account the experiences of the western German states or France, where great importance is attached to maintaining family farms in the

countryside, in order to maintain the social structure and counteract the tendencies of depopulation of rural areas (Tomczak, 2005, p. 375). Social and natural considerations are also important. The most advisable in Poland would be the development of agriculture based on economically, socially and environmentally sustainable family farms (Zegar 2011, pp. 42-56).

The ongoing process of globalization is not indifferent to the shaping and diversification of incomes, which is, according to A. Czyżewski and A. Poczta-Wajda, "one of the most important contemporary conditions for the development of economies, including the agrifood economy", in which "in the absence of autonomous human needs, production, often satisfying apparent needs, accelerating product rotation, is the criterion for choosing consumption" (Czyżewski, Poczta-Wajda, 2-11, pp. 18, 20). However, the process of globalization makes farmers increasingly dependent on large companies, corporations, which are the main beneficiaries of this process, while smaller farms and processing companies are subject to economic degradation (Kowalczyk, 2009, pp. 19-26). As a result of the globalization process, as M. Adamowicz states, "agriculture can expect a more distinct formation of the following three sectors: commercial agriculture, multifunctional agriculture and social agriculture" (Adamowicz, 2005, p. 122). J. Wilkin even drew attention to the "neglect" of the issue of multifunctionality of agriculture and the countryside (Wilkin, 2009, p. 11).

Multifunctionality and multivocationality are part of the process of adaptation of farming families to the changing environment and constitute a chance for them to achieve income and social sustainability. Farmers, especially those using small or medium-sized areas, should not be satisfied with the production of agricultural raw materials only, but should expand the scope of their activities not only to services, but above all to active participation in the subsequent stages of the process of refining their production (Chmielewska, 2013, pp. 88-98).

2. Methodological approach

In household budget studies (GUS, Household budgets, 2024, pp. 115-124), the Central Statistical Office uses the category of disposable income (Household's available income). Disposable income is allocated for expenses and an increase in savings, and is therefore a basic indicator determining the level and quality of life. The structure of disposable income sources is the basis for dividing households into socio-economic groups. The criterion is the exclusive or predominant (over 50%) source of income: for employees it is hired work, for farmers - an individual farm, for the self-employed - self-employment outside agricultural activity, for retirees and pensioners - social benefits, mainly pensions or annuities. The unit of study in budgets is the household.

Disposable income is the sum of current household income from individual sources reduced by income tax advances. Disposable income includes monetary and non-monetary income, including natural consumption (consumer goods and services taken for the needs of the household from an individual farm in agriculture or self-employed business activity) and goods and services received free of charge. Disposable income is allocated for expenses and an increase in savings.

The basic components of disposable income are:

- income from hired work;
- income from an individual farm in agriculture;
- income from self-employment outside an individual farm in agriculture;
- social insurance benefits (including retirement and disability pensions);
- other social benefits (including family benefits);
- other income (including gifts and alimony).

Income from an individual farm in agriculture is calculated as the difference between the sales value of agricultural production (including natural consumption) and subsidies related to the use of the farm and the current expenditure on agricultural production and taxes related to running the farm.

The aim of the study is primarily to confirm or reject the assumption (hypothesis) that during the period of Poland's integration with the EU:

- the nominal disposable income of households of all economic and social groups increased;
- the highest growth dynamics was characteristic of the income of households of farmers;
- there were changes in the structure of income of households of farmers
- the highest increase in the share was shown by the share from hired work;
- income from non-agricultural sources plays an increasingly important role in shaping the income of a farming family.

The aim of the study is also to assess changes in the income situation of households of farmers in relation to other groups of households in the period after Poland's integration with the European Union. Disposable income was adopted as the basic indicator of the level and quality of life.

The study was conducted based on the results of household budgets conducted annually by the Central Statistical Office. The household budget study plays an important role in the analysis of the standard of living of the population. It is the basic source of information on income, expenditure, quantitative consumption of food and other aspects of the living conditions of specific population groups (including: equipment of households with durable goods, housing conditions, subjective assessment of the financial situation of households, demographic and social structure of households, i.e., the number, age, gender, education, economic activity of persons belonging to the surveyed household).

Household budget studies are conducted using a representative method, which allows for generalizing the results obtained to all households in the country with a certain precision. Since 2005, households have been classified in the household budget study according to five basic socio-economic groups of the country's population. These are:

- employee households – households whose exclusive or main (predominant) source of income is income from hired work in the public or private sector; and the income obtained from individual additional sources is lower than the income obtained from hired work. In this group, the Central Statistical Office additionally distinguishes two subgroups: (1) employees in manual labor positions and (2) employees in non-manual positions;
- farmer households – households whose exclusive or main (predominant) source of income is income from an individual farm in agriculture; the income obtained from individual additional sources is lower than the income obtained from an individual farm in agriculture;
- households of self-employed people – households whose exclusive or main (predominant) source of income is self-employment outside of an individual farm in agriculture or freelance work; income from individual additional sources is lower than income from self-employment outside of an individual farm in agriculture (including income from freelance work);
- households of retirees and pensioners – households whose exclusive or main (predominant) source of income is a pension or disability pension; income from individual additional sources is lower than income from pensions and disability pensions. In this group, the Central Statistical Office additionally distinguishes two subgroups: (1) retirees and (2) pensioners;

• households living on unearned sources – households whose exclusive or main (pre-dominant) source of income is unearned sources other than a pension or disability pension, e.g. unemployment benefits, other cash and non-cash benefits. Due to the small number of households in this group and its large internal differentiation, data for households living on unearned sources of income are not published.

Household budget surveys are conducted throughout the country by local statistical offices. In 2023, the actual number of households surveyed was 28,089. In 2023, the household budget survey was conducted by interviewers using the computer-assisted direct interview (CAPI) method, and the surveyed households kept records in the "Budget Book" in a paper booklet or in an electronic booklet accessible via a web browser (CAII method), or collected receipts.

The size of a household is determined by the number of people in it. The published data on household budgets distinguish single-person and multi-person households: 2-, 3-, 4-, 5- and 6- or more people.

The sources of income of household members are the sources from which the obtained cash and non-cash resources come from. They are determined on the basis of the income (revenues) of the household members, provided that they are of a permanent or recurring nature. The main (basic) source of income is understood as the only or predominant source of income. The following sources of income are distinguished:

1. Sources of income:
 - hired work;
 - self-employment on an individual farm, outside an individual farm or performing a freelance profession;
 - work on an individual farm;
2. Non-earned sources:
 - social insurance benefits (including retirement pensions, annuities);
 - other social benefits (including family benefits, unemployment benefits, cash and non-cash benefits granted under the Social Assistance Act, scholarships, alimony paid from the Alimony Fund, other);
3. – Being dependent.

The income of the population is a basic indicator of their standard of living. Data on income obtained from the household budget survey enable the analysis of the living conditions of the population, the assessment of the impact of various factors on the level and differentiation of the financial situation of basic household groups.

The results of the household budget survey are used, among others, for:

- analyses of the level and differentiation of the living conditions of basic socio-economic groups of households and the reasons for this differentiation, and
- analyses of the level and differentiation of the living conditions of basic household groups in a dynamic approach.

The study on the assessment of changes and verification of the above-mentioned assumptions (hypotheses) concerns the period related to Poland's integration with the EU. Where necessary, the indication of the phenomenon and the availability of comparable empirical data refers to the years 2002-2022 (X1...X21) and 2004-2022 (X1...X19). The study used the statistical and econometric analysis method.

In order to prove the hypotheses, the following indexes (measures) of changes in disposable (nominal) household income were calculated:

- average dynamics in Poland and for 6 basic and 2 additional economic and social groups, namely: farmers, employees (including workers and non-workers), self-employed, retirees and pensioners (including retirees and pensioners);

- parity of farmers' income in relation to the above-mentioned 8 groups;
- changes in the income structure of farmers' households;
- the characteristics of income changes were performed using annual dynamics and the coefficient of variation (V), which was calculated from the formula:

$V = s / \bar{x} * 100\%$, where s = standard deviation, and \bar{x} is the arithmetic mean;

- income relations in selected socio-economic groups were examined using Pearson correlation and linear regression, which allows determining not only the strength of the relationship and the direction of covariation, but also the extent to which the model describes covariation.

The basic empirical sources were the cyclical results of household budget studies, available in the Central Statistical Office publications, primarily in: Household budgets, Income and living conditions of the Polish population - EU-SILC study report, Rural areas in Poland and signal publications, as well as literature data, existing data (desk research) and generally available mass (public) statistics data of the Central Statistical Office and Eurostat.

Household budget studies play an important role in the analysis of the standard of living of the population. They are the basic source of information on revenues, expenditures, quantitative consumption of food and other aspects of the living conditions of specific population groups. However, the results are burdened with non-random errors; this applies especially to income, which is often underestimated, and certain types of expenditure, which in turn are often overestimated. Due to differences in methodological solutions, there are discrepancies between the results of household budget studies and macroeconomic data. Therefore, the results of the household budget survey are mainly used to analyse the relative diversity and structure of household income, expenditure and consumption, depending on socio-demographic characteristics and other cross-sections used, such as by place of residence class.

3. Conducting research and results

The study showed changes in the disposable income (nominal) of households (level, dynamics, parity, structure), and to explain the changes, statistical dependencies were calculated between the income ratio of farm households and other household groups.

3.1. Level, structure and income ratios

In 2022, the nominal, average monthly disposable income in farm households amounted to PLN 2,328 per person and was 330% higher compared to 2004 (PLN 541). In the remaining socio-economic groups of households, the nominal increase in disposable income was lower and amounted to: in households on average in the country by 206%, for employees on average by 188%, for workers in manual positions by 242%, for non-manual employees by 137%, for the self-employed by 172%, for retirees and pensioners on average by 187%, for retirees by 162%, for pensioners by 195% (Table 1 and 2).

RECENT ISSUES IN ECONOMIC DEVELOPMENT

Table 1. Average monthly disposable income per person in households in 2002-2022 (current prices)

Years	Households								
	Grand total	of farmers	Employees				of the self-employed	of retirees and pensioners	
			total	in		total		of retirees	of pensioners
				manual labour positions	non-manual labour positions				
In PLN per person per month (current prices)									
2002	888	890	921	672	1269	1087	932	1060	727
2003	920	802	979	702	1346	1106	964	1085	762
2004	735	541	782	558	1069	935	779	869	612
2010	1193	1025	1199	896	1592	1468	1181	1245	926
2015	1386	1046	1387	1081	1761	1739	1438	1510	1438
2020	1919	1854	1934	1620	2216	2238	1894	1941	1522
2021	2062	2008	2048	1736	2302	2487	2051	2096	1638
2022	2250	2328	2251	1912	2533	2540	2239	2281	1809
Dynamics of changes in nominal income in percentage in the years: 2004 - 2022 in percentage									
2022									
2004	306,1	430,3	287,9	342,7	237,0	271,7	287,4	262,5	295,6

Source: own study based on GUS data (Household budgets).

In the period after accession, there was a significant reduction in the income disparity of farmers compared to other groups of households. The nominal disposable income of farmer households in 2004 was 74% of the income of the average household in the country, and in 2022 it was even 3% higher.

Table 2. Dynamics of average, nominal, monthly disposable income in socio-economic groups of households (current prices)

Years	Households						
	Grand total	of farmers	Employees in		of the self-employed	of retirees	of pensioners
			manual labour positions	non-manual labour positions			
2002	120,7	164,6	120,4	118,7	116,3	122,0	118,7
2003	125,1	148,2	125,7	125,9	118,2	124,9	124,4
2004	100,0	100,0	100,0	100,0	100,0	100,0	100,0
2010	162,2	189,4	160,5	149,0	157,0	143,2	151,2
2015	188,5	193,4	193,6	164,8	186,0	173,7	234,8
2020	261,0	342,6	290,1	207,4	239,3	223,3	248,6
2021	280,4	371,2	310,9	215,4	265,9	241,2	267,5
2022	305,9	430,3	342,4	237,0	271,6	262,5	295,4

Source: own study based on GUS data (Household budgets).

In the period after accession to the European Union, there was a downward trend in the income disparity of farmer households compared to the income of other socio-economic groups. However, it should be noted that the level of disposable income fluctuated in the period under review, which was reflected in changes in the level of disparity (Table 3).

RECENT ISSUES IN ECONOMIC DEVELOPMENT

Table 3. Relationships between the level of average monthly disposable income per person in farmer households and the income of other household groups (current prices, income parity index*)

Years	Grand total	Employees			of self-employed	pensioners and retirees			
		total	manual labour positions	non-manual labour positions		total	of retirees	of pensioners	
Parity index: farmers' income / income of individual other household groups (%)									
2002	100	97	132	70	82	96	84	122	
2003	87	82	114	60	73	83	74	105	
2004	74	69	97	51	58	69	62	88	
2010	86	85	114	64	70	87	82	111	
2015	75	75	97	59	60	73	69	73	
2020	97	96	114	84	83	98	96	122	
2021	97	98	116	87	81	98	96	123	
2022	103	103	122	92	92	104	102	129	

*Income parity: the ratio of the average monthly (per person) disposable income of farmer households to the average monthly income (per person) in the households of individual socio-economic groups in %.

Source: own study based on GUS data (Household budgets).

In the analysed period, the greatest disparity in farmers' incomes occurred in relation to employees in non-manual positions and the self-employed. However, in comparison with employees in manual positions and pensioners, farmers' incomes were dominant in most years. In 2022, farmers' nominal incomes were 22% higher than employees in manual positions, 2% higher than pensioners and 29% higher than pensioners. However, they were lower in relation to two groups, namely employees in non-manual positions and the self-employed (outside an individual farm) and constituted 92% of their income each (Table 3).

3.2. Sources of income

In the period after accession, there was a change in the structure of income, consisting mainly of a tendency for the importance of income from agriculture to decrease in the budget of the agricultural family and an increase from other sources, as illustrated in Figure 1.

The share of income from agriculture amounted to 67.4% in 2005 (before integration, the value of the indicator was higher and amounted to 75.6% in 2002); in 2022, the percentage was 69.5%. It should also be emphasized that this period was characterized by fluctuations in the share of income from work on the farm. In the period after integration, the highest value of the indicator (above 70%) was recorded in the years: 2007, 2010, 2013 and 2021. The lowest in 2016 (62.2%).

In the structure of income of the agricultural family, the share of income from hired work accounted for 9.6% in 2005. The following years were characterized by an upward trend in the value of the indicator to 13.9% in 2015 (the highest value), followed by a decline to 10.5% in 2022. In the years 2005-2022, the share of income from self-employment decreased (from 1.3% to 1.1%) and from social benefits and insurance (from 18.8% to 17.8%).

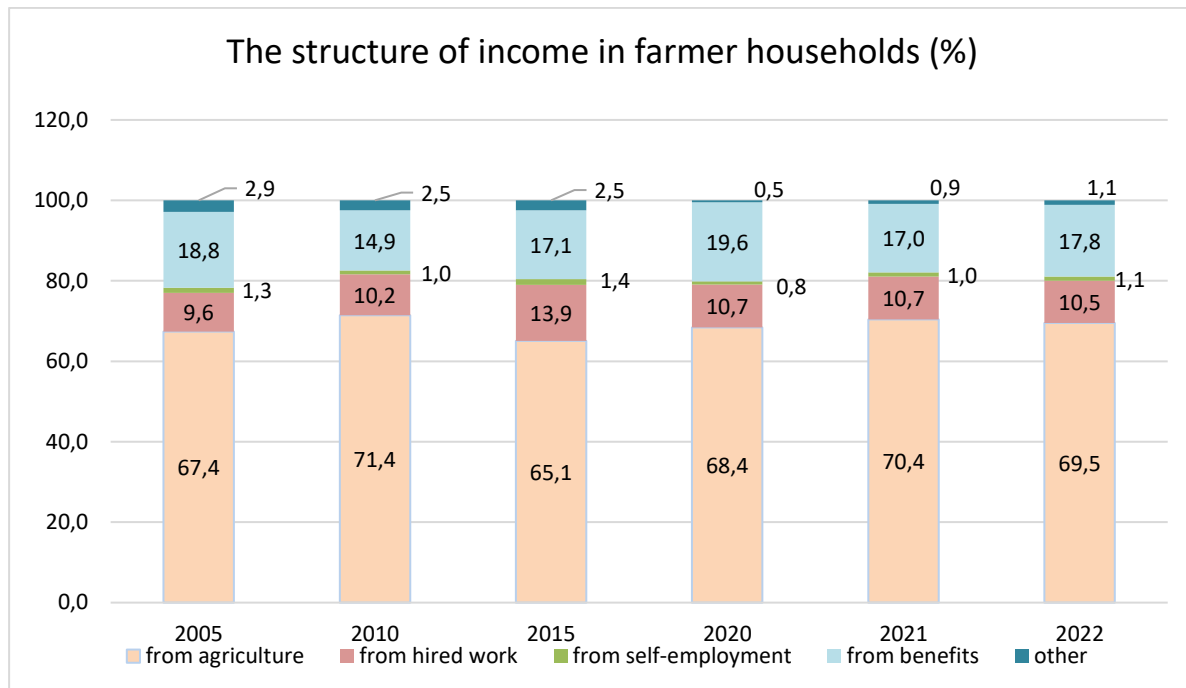


Figure 1. Changes in the structure of disposable income in farm households in 2005-2022 (the year 2005 was adopted due to the change in the division of household groups and the resulting lack of data comparability)

Source: own study based on GUS data (Household budgets).

Farmers' households, compared to other groups of households, obtained a lower or similar share of income from the main source of income. In 2022, in farmers' households, income from an individual farm in agriculture accounted for 69.5% of disposable income per person, while in employees' households, income from the main source of income, i.e. hired work, accounted for 80.8% of the total disposable income, and in households of the self-employed, income from the main source of income, i.e. self-employment, accounted for 68.1%.

For farming families using farms with a small area of agricultural land, subsidies play a smaller role in shaping their disposable income. In the group of farmers' households, which constitute the research sample of household budgets, the share of subsidies in agricultural income is at the level of several percent (e.g. 15.9% in 2015). This results from the fact that the research sample of the budgets consists of farmers' farms, 2/3 of which use small farms with an agricultural area of up to 20 ha.

3.3. Relationships of changes in disposable household income (in the years 2002-2022)

In the period under review, income in all professional groups increased, but different characteristics of changes in the annual relationship were also observed, which distinguish agricultural income.

Firstly, farmers' income was characterized by the strongest (both positive and negative) annual changes in income in the professional groups under review.

Secondly, only in the case of farmers' income was a negative annual dynamics of changes in the amount of income observed (in the years 2009, 2011, 2014 and 2015) (excluding the accession period, when income fell in all groups) (Figure 2).

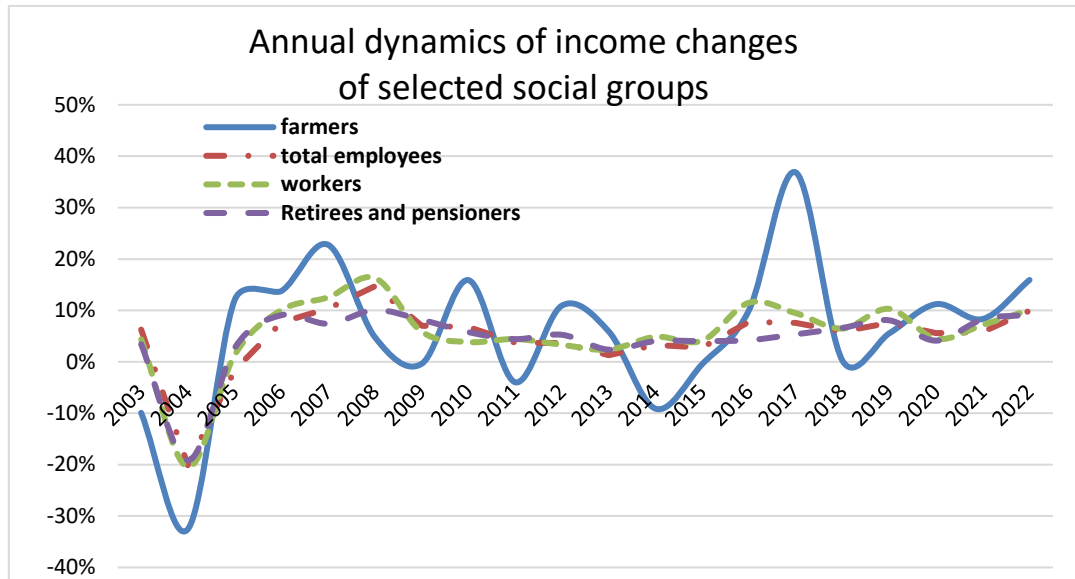


Figure 2. Dynamics of changes in nominal disposable income of selected household groups
 Source: own study based on GUS data (Household budgets).

Third, farmers’ incomes were also characterized by the highest variability among the groups studied, and the coefficient of variation was 40.9%, which indicates moderate variability. A similar, but one noticeably lower value of the coefficient of variation was observed in the group of workers (V=37.9%). The lowest variability was characteristic of incomes in the group of employees in non-manual positions, and the value of the coefficient is relatively low (table 4).

Table 4. Coefficient of variation of nominal disposable income of households by economic and social groups

Coefficient of variation (V) of disposable income in Poland in 2002-2022				
Total	Farmers	Employes total	in:	
			manual labour positions	non-manual labour positions
33,0%	40,9%	32,3%	37,9%	25,0%
Self-employed	Pensioners and retirees	retirees	pensioners	x
29,7%	31,5%	28,8%	33,3%	x

Source: own study based on GUS data (Household budgets).

In the case of changes in the structure of farmers' income, several regularities were observed in the period under review relating to sources of work. Between 2002 and 2022, the importance of all source categories decreased, except for hired work, which increased. The share of income from work in agriculture decreased the most, by 6.1 percentage points, while the share of income from hired work increased by 10.4 percentage points during that time (Figure 3).

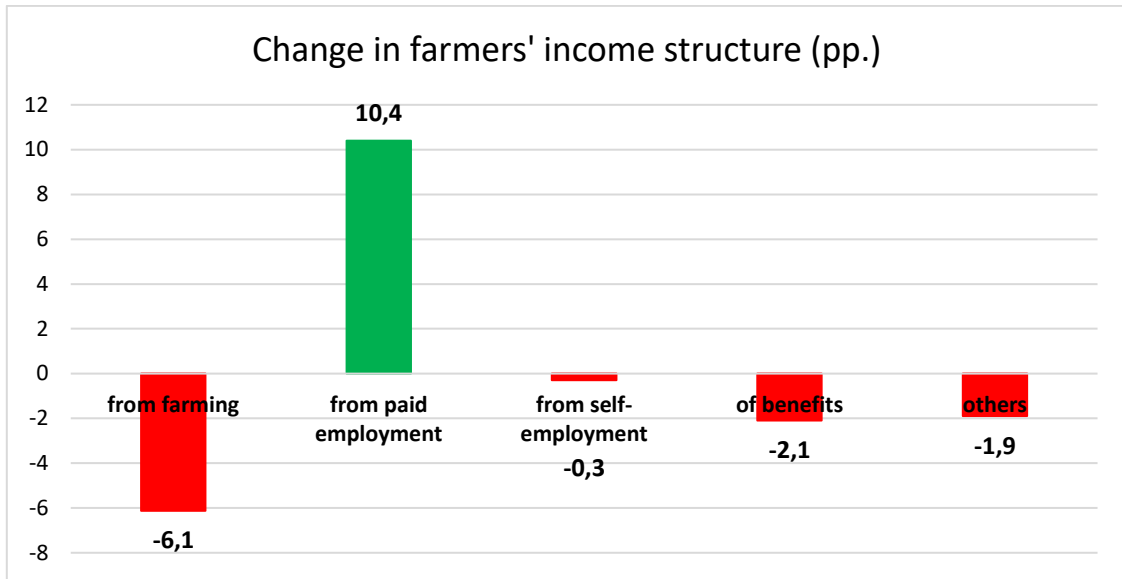


Figure 3. Change in the structure of disposable income of farmer households in percentage points

Source: own study based on GUS data (Household budgets).

Changes in the structure of income of farmers’ households show a strong and significant correlation in the case of the categories “from work in agriculture” and “from hired work”, whereby the correlation is negative, i.e. with a decrease in the share of income from agriculture, there is an increase in income from hired work. The model is well-fitted, explaining 67% of the changes. The model allows us to assume that on average, with a decrease by 1.1 percentage points in the share of income from agriculture, there is an increase by 1 percentage point in the share of income from hired work (Figure 4).

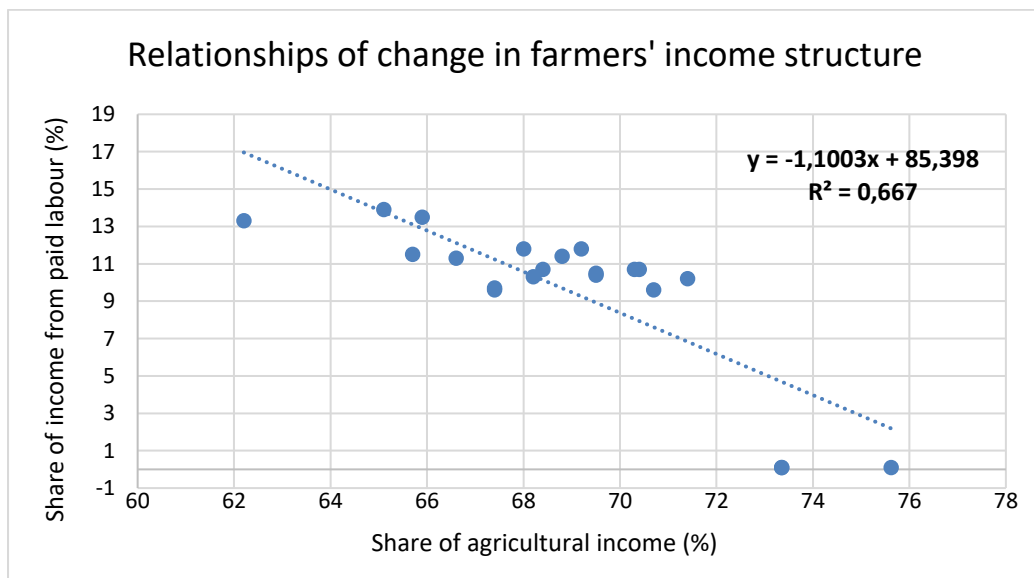


Figure 4. Relationships between changes in the income structure of farmers' households

Source: own study based on GUS data (Household budgets).

In the structure of farmers’ income, in the case of income from “self-employment” and income from “agriculture” and the “other” category, there was a weak and statistically insignificant correlation, and other income categories did not show statistically significant

covariation with income from agriculture, which suggests that other factors (e.g. external factors, such as “economic conditions” or “level of social benefits”) determine them (table 5).

Table 5. Linear dependence of the structure of disposable income of farmer households

Matrix of linear dependence of farmers' income structure				
income from agriculture				
dependence	from hired work	from self-employment	from benefits	other
correlation: R=	-0,82	0,39	0,00	0,25
regression: R2=	0,67	0,16	0,00	0,06

Source: own study based on GUS data (Household budgets).

4. Discussion

Based on the conducted research on changes in disposable income of households after Poland's accession to the European Union, it was found that during this period, the disposable income of households increased across all socio-economic groups. In 2004, the nominal disposable income of farming households amounted to 541 PLN per person, and by 2022 it had increased to 2328 PLN per person; employees from 782 PLN to 2251 PLN; manual workers from 558 PLN to 1912 PLN, non-manual workers from 1069 PLN to 2533 PLN; self-employed individuals from 935 PLN to 2540 PLN; pensioners and disability pensioners from 779 PLN to 2239 PLN, pensioners from 869 PLN to 2281 PLN, and disability pensioners from 612 PLN to 1809 PLN. Many researchers, including B. Chmielewska, J. St. Zegar, S. Kalinowski, and E. Mazurek-Krasodomska, point out the improvement in the income situation of households. They also emphasize that income is crucial for the standard of living and quality of life of the population (Kalinowski 2024, p. 213-233; Chmielewska; Mazurek-Krasodomska 2017, p. 189-196).

From 2004 to 2022, the greatest increase in household incomes was observed among farming households – a nominal increase of 330%. The growth dynamics of nominal disposable income in other household groups were lower, with the following increases: the national average increased by 206%, employees by 188%, manual workers by 243%, non-manual workers by 137%, self-employed individuals by 172%, and pensioners and disability pensioners by 187%, with pensioners increasing by 162% and disability pensioners by 196% (ibid. and Czyżewski, Poczta-Wajda, p. 18-20).

The change in income structure during the integration period mainly involved a decrease in the share of income from agriculture in the household budget, with a simultaneous increase in the share from wage employment. From 2005 to 2022, farming households saw the share of income from agriculture fluctuate between 71.4% and 65.1%, with a decreasing trend. In contrast, the share of income from wage employment showed an upward trend (with slight fluctuations), ranging between 9.6% and 13.9% (Chmielewska, Zegar 2024, p. 69-85; Kalinowski 2024, p. 213-233; Mazurek-Krasodomska 2017, p. 189-196; Kasprzyk, Leszczyńska 2012, p. 263-273).

Traditionally, rural areas were associated with agriculture and peasants. This image has undergone a significant change. This is evident in the changes and diversification of income sources in farming households. Income from non-agricultural sources is playing an increasingly important role in shaping the income of farming and rural families. This is a consistent trend. However, it should be noted that although the integration period was characterized by a decreasing income disparity between farmers and other household groups, fluctuations still occurred, resulting from the understandable variability of agricultural incomes, as confirmed

by studies of J. St. Zegar, B. Chmielewska, M. Podstawka, P. Gołas, and I. Augustyńska (Podstawka, Gołas 2018, p. 79-88; Zegar 2000, p. 5-36; Chmielewska, Zegar 2022, p. 133-151; Augustyńska 2024, p. 5-194).

A characteristic feature of the integration period was the process of income convergence between farming households and other socio-economic groups, as well as between rural and urban residents. The income disparity between these groups decreased, primarily due to the improvement in farmers' income situation. As a result, between 2004 and 2022, the income disparity between farming families and non-farming families decreased, indicating a process of income convergence. This is reflected in the change in income parity indices. In 2004, farmers' incomes represented 74% of the average income of households in the country, and by 2022, they were 3% higher. These are positive changes affecting all other socio-economic groups of households. Despite significant improvement, primarily due to Poland's integration with the EU, income disparity between household groups and between rural and urban areas persists. Literature reports point to many causes of this differentiation, both on a macro and micro scale (Chmielewska 2004, p. 4-173; Woś, Zegar 2002, p. 16).

During the studied period, there were different characteristics of income changes among household groups – the strongest in farming households. These households were characterized by the most significant (both positive and negative) annual income changes compared to other groups, as well as the highest variability. The coefficient of variation was 40.7%, indicating moderate variability. A similar, though noticeably lower, coefficient of variation was observed in the group of manual workers ($V=36.7\%$). The lowest variability was observed in the income group of non-manual workers, with a relatively low coefficient. Only in the case of farmers' incomes was there (in some years) a negative annual change in income.

In the case of changes in the income structure of farmers, several regularities were observed during the studied period related to the sources of income. Between 2002 and 2022, the importance of all income categories decreased, except for income from wage employment, which increased. The share of income from benefits and agriculture decreased the most, by 4.0 percentage points, while income from wage employment increased by 10.4 percentage points during this period.

Changes in the income structure of farming households show a strong and significant interdependence between the categories “income from agriculture” and “income from wage employment,” with a negative correlation, meaning that as the share of income from agriculture decreases, the share of income from wage employment increases. The model is quite well-fitted, explaining 40% of the changes. The model suggests that on average, with a decrease of 0.6 percentage points in income from agriculture, there is an average increase of 1 percentage point in income from wage employment. Other income categories did not show statistically significant co-variation, suggesting that other factors (e.g., external factors such as economic conditions) determine them.

Conclusion

The results of the conducted research allow for the formulation of the following conclusions. During the period of Poland's integration with the European Union, the following changes occurred. Nominal disposable income of households from all socio-economic groups increased. The highest growth dynamics were observed in the incomes of farming households. There was a change in the income structure of farming households. This change mainly involved a reduction in the share of income from agriculture in the household budget, accompanied by an increase in the share from wage employment. Non-agricultural income sources are playing an increasingly important role in shaping the income of farming families.

The integration period was characterized by a process of income convergence between farming households and other socio-economic groups, as well as between rural and urban residents. During the examined period, incomes increased in all occupational groups, but there were also distinct changes in the annual relations that differentiate agricultural incomes. First, agricultural incomes were characterized by the strongest (both positive and negative) annual changes compared to other household groups. Only in the case of farmers' incomes was there observed (in certain years) a negative annual income change. Agricultural incomes also exhibited the highest variability among the examined groups. In the income structure of farmers, the significance of all income source categories decreased, except for wage employment, which increased. Changes in the income structure of farming households show a strong and significant interdependence between the categories "income from agriculture" and "income from paid employee".

References

- Adamowicz, M. (2005). *Zjawiska i procesy globalne a rozwój wsi i rolnictwa w Polsce*, [w:] *Polska wieś 2025*, Wizja rozwoju, red. J. Wilkin, Wyd. Fundusz Współpracy, Warszawa, 122
- Augustyńska, I. (2024), *Sytuacja ekonomiczna małych gospodarstw towarowych a struktura dochodów rodzin ich użytkowników*. Studia i Monografie Nr 202. Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej Państwowy Instytut Badawczy, Warszawa 2023, 5-194
- Bański, J. (2007). *Historia rozwoju gospodarki rolnej na ziemiach polskich*, maszynopis, 13; artykuł jest częścią opracowania zawartego w książce: J. Bański, 2007: Geografia rolnictwa Polski, PWE, Warszawa
- Błąd, M. (2011). *Wielozawodowość w rodzinach rolniczych. Przyczyny uwarunkowania i tendencje rozwoju*, IRWiR PAN, Warszawa, 2011, 116-117
- Chmielewska, B. (2004), Studia i Monografie Nr 122, Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej (IERiGŻ), Warszawa, 4-173
- Chmielewska, B., Zegar, J., St. (2024). *Źródła i rozdysonowanie dochodów mieszkańców wsi*. Rozdział 4 [w:] *Polska Wieś 2020. Raport o stanie wsi. 20 lat w Unii Europejskiej*. Redakcja naukowa: W. Poczta, A. Hałasiewicz. Fundacja na rzecz Rozwoju Polskiego Rolnictwa (FDPA). Wydawnictwo Naukowe SCHOLAR, Warszawa, 69-85, DOI: 10.7366/9788367450843
- Chmielewska, B., Zegar, J., St. (2022), *Z czego żyje wieś? Źródła dochodów ludności wiejskiej, ich ewolucja i zróżnicowanie* - Rozdział 8 [w:] *Polska wieś 2022. Raport o stanie wsi*. Redakcja naukowa: J. Wilkin i A. Hałasiewicz. Fundacja na rzecz Rozwoju Polskiego Rolnictwa (FDPA). Wydawnictwo Naukowe SCHOLAR, Warszawa, 133-151, DOI: 10.7366/9788366849549
- Chmielewska B., Zegar J., St. (2020). *Poziom życia na wsi na tle kraju i Unii Europejskiej*. Rozdział 6 [w:] *Polska Wieś 2020. Raport o stanie wsi*. Redakcja naukowa: J. Wilkin, A. Hałasiewicz. Fundacja na rzecz Rozwoju Polskiego Rolnictwa (FDPA). Wydawnictwo Naukowe SCHOLAR, Warszawa, 115-138, DOI: 10.7366/9788366470347
- Czyżewski, A. (2005). *Rolnictwo w procesie reprodukcji, Różne wizje dostosowań rynkowych*, [w:] B. Klepacki (red.), *Kwestia agrarna w Polsce i na świecie*, SGGW, Warszawa, 127
- Czyżewski, A., Matuszczak, A. (2012). *Dylematy kwestii agrarnej w panoramie dziejów – mechanizm krzywdy chłopskiej*, [w:] *Ekonomia i jej społeczne otoczenie*, (red.) A. Czyżewski, A. Matuszczak, Wydawnictwo KPSW, Bydgoszcz 2012, s. 30

- Czyżewski, A., Poczta-Wajda, A. (2011). *Polityka rolna w warunkach globalizacji*. Doświadczenia GATT/WTO, PWE, Warszawa, 18, 20, 25, 26
- Farkowski, Cz. (1984). *Dyferencjacja (rozwarstwienie) gospodarstw*, Encyklopedia Ekonomiczno-Rolnicza, PWRiL, Warszawa, 129
- Gorzela, E. (1963). *Dochody ludności rolniczej w Polsce w okresie 1955-1960*, PWN, Warszawa, 281-288
- Grochowski, Z. (1991). *Sytuacja ekonomiczna prywatnej gospodarki rolnej w roku 1990 i 1991 na tle dekady lat osiemdziesiątych*, IERiGŻ, Komunikaty Raporty Ekspertyzy, 318, Warszawa, 1 and 2
- Grochowski, Z. (1980). *Sytuacja dochodowa indywidualnej gospodarki chłopskiej*, IERiGŻ, Warszawa
- GUS (2023). *Budżety gospodarstw domowych 2023*. Warszawa, 118-119
- Ignar, M. (1983). Dochody ludności wiejskiej, *Zagadnienia Ekonomiki Rolnej*, 2, IERiGŻ, Warszawa, 34
- Kalinowski, S. (2024). *Zmieniający się obraz polskiej wsi – sukcesy i wyzwania społeczne*. Rozdział 10 [w:] *Polska wieś 2024. Raport o stanie wsi. 20 lat w Unii Europejskiej*. Redakcja naukowa: W. Poczty i A. Hałasiewiczza. Fundacja na rzecz Rozwoju Polskiego Rolnictwa (FDPA). Wydawnictwo Naukowe SCHOLAR, Warszawa, 213-233, DOI: 10.7366/9788367450843
- Kasprzyk, B., Leszczyńska, M. (2012). *Dochody i wydatki jako determinanty dobrobytu ekonomicznego gospodarstw domowych w Polsce – ujęcie regionalne*. [w:] *Nierówności Społeczne a Wzrost Gospodarczy*. 2012, 263-273
- Klank, L. (1987). *Metody pomiaru różnicowań dochodowych w rolnictwie*, *Wiś i Rolnictwo* 3(56), Warszawa, 67-81
- Kowalczyk, S., (2009). *Globalizacja, agrobiznes i produkcja żywności*, [w:] *Bezpieczeństwo żywności w erze globalizacji*, red. S. Kowalczyk, SGH, Warszawa, 19-26
- Kożuch, B. (red.). (1994). *Polska polityka rolna 1944-94. Wybrane zagadnienia*, Wyd. UW w Białymstoku, 14
- Leatherman, J., Marcouiller, D., W. (1996) *Income Distribution Characteristics of Rural Economic Sectors: Implications for Local Development Policy*, *Growth and Change*, 27, 434-459
- Mazurek-Krasodomska, E. (2017), *Dochody gospodarstw domowych i ich determinanty – różnicowanie regionalne w UE*. [w:] *Annales Universitatis Marie-Curie-Skłodowska*. Lublin. Polonia Sectio H, 189-197
- Michna, W. (2009). *Polityka gospodarcza Polski w pierwszych dekadach XXI wieku*, Akademia Finansów w Warszawie, Warszawa, 104-111
- Michna, W. (2002). Źródła utrzymania ludności wiejskiej w wykorzystanie zasobów siły roboczej w różnych regionach, *Studia i Monografie*, 108, IERiGŻ, Warszawa, 31-47.
- Mishchuk, H., Yurchyk, H., & Bilan, Y. (2018). Shadow incomes and real inequality within the framework of leadership and social change. In *Leadership for the Future Sustainable Development of Business and Education* (pp. 89-101). Springer, Cham. https://doi.org/10.1007/978-3-319-74216-8_10
- Muszyński, M. (1976). *Transformacja ludności dwuzawodowej*, PWN, Warszawa
- Nassar, S., Naárné Tóth, Z., & Vasa, L. (2023). Economic empowerment as a result of achieving SDGs with resource access: A comparative research between Gaza Strip and Hungary. *Journal of International Studies*, 16(1), 9-33. doi:10.14254/2071-8330.2023/16-2/1
- Nowak, M. (1990). *Państwowe Gospodarstwa Rolne – od gospodarki nierynkowej do rynkowej*, [w:] *Przekształcenia własnościowe i strukturalne w rolnictwie*, Akademia Rolnicza, Wrocław, 16-20

- Paszkowski, J. (2005). Procesy polaryzacji funkcjonalnej i dochodowej gospodarstw rolnych w warunkach gospodarki rynkowej, *Acta Scientiarum Polonorum. Oeconomia* 4(2)2005, 6
- Poczta, W. (2009). *Rolnictwo polskie pięć lat po akcesji*, [w:] Pomorski Przegląd Gospodarczy, nr 3/2009 (42), Instytut Badań nad Gospodarką Rynkową, Gdańsk, 22
- Podstawka, M., Gołasa, P. (2018), Dochody gospodarstw rolnych - porównanie wyników badań. [w:] *Problemy drobnych gospodarstw rolnych* Nr 3/2018/79-88. Kraków 79-88, ISSN 2300-0902
- Rosati, D., K. (red. nauk.). (2009). *Europejski Model Społeczny. Doświadczenia i Przeszłość*, Państwowe Wydawnictwo Ekonomiczne, Warszawa, 184
- Rosner A. (2000). *Źródła utrzymania ludności wiejskiej*, [w:] M. Hałamska (red.): Chłop Rolnik Farmer. Przystąpienie Polski do UE – nadzieje i obawy polskiej wsi, IRWiR PAN, Warszawa, s. 57-60
- Ruttan, V., W., Hayami, Y. (1972). *Strategies for Agricultural Development*, Food Research Institute Studies. - Stanford University, Food Research Institute. - 1972, 02
- Szemberg, A. (1993). Źródła utrzymania rodzin z gospodarstw chłopskich, *Zagadnienia Ekonomiki Rolnej*, 6, IER, Warszawa, 24-34.
- Schmidt, G. (1993). „Landwirtschaftsgesetz” und „Agrarbericht” im Licht der Theorie des landwirtschaftlichen Haushaltes: Drei Fraget und erste Antworten, *Agrarwirtschaft*, tom 42 (4/5), 189-199.
- Tkacova, A., Gavurova, B., & Gontkovicova, B. (2024). The impact of minimum wage increases on unemployment in the V4 countries: Assessing the recommendations of the European Commission. *Journal of International Studies*, 17(3), 51-67. doi:10.14254/2071-8330.2024/17-3/3.
- Turowski, J. (1992). *Socjologia wsi i rolnictwa*, Norbertinum, Warszawa, s. 89.
- Vasylieva, T., Kasperowicz, R., Tiutiunyk, I., & Lukács, E. (2023). Transparency and trust in the public sector: Targets and benchmarks to ensure macroeconomic stability. *Journal of International Studies*, 16(4), 117-135. doi:10.14254/2071-8330.2023/16-4/8.
- Wilkin, J. (2009). *Wielofunkcyjność rolnictwa – konceptualizacja i operacjonalizacja zjawiska*, Wieś i Rolnictwo, IRWiR PAN nr 15, Warszawa, 11.
- Wiśniewski, M. (1996). *Zmiany rozkładów dochodów w latach 1987-1992*, [w:] Studia nad reformowaną gospodarką, Aspekty instytucjonalne, (red.) M. Sokółski, U. Sztanderska, Wydawnictwo Naukowe PWN, Warszawa, 232-268.
- Witzke, H. (1984). A Model of Income Distribution in Agriculture: Theory and Evidence, *European Review of Agricultural Economics*, 11 (1), 65-83, DOI: <https://doi.org/10.1093/erae/11.1.65>.
- Wong, Z. Y., Kusairi, S., & Abdul Halim, Z. (2023). Household consumption and indebtedness: Are there disparities between genders, rural–urban areas, and among income groups?. *Economics and Sociology*, 16(3), 30-43. doi:10.14254/2071789X.2023/16-3/2 .
- Woś, A. (2005). *Makroekonomiczne uwarunkowania rozwoju sektora żywnościowego*, [w:] Analiza produkcyjno-ekonomicznej sytuacji rolnictwa i gospodarki żywnościowej w 2004 roku, (red. nauk.) A. Woś, IERiGŻ-PIB, Warszawa, 32.
- Woś, A. (2002). *Przestrzeń ekonomiczna rolnictwa*, IERiGŻ, Warszawa, 15.
- Woś, A. (2000). *Tworzenie i podział dochodów rolniczych*. Dochody transferowe, IERiGŻ, Warszawa, 13.
- Woś, A., Zegar J., St. (2002). *Rolnictwo społecznie zrównoważone*. Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej (IERiGŻ), Warszawa, 16.
- Yurchyk, H., Mishchuk, H., Bilan, S., & Scare, M. (2024). Social expenditure multiplier: Assessment of economic effect and optimal values. *Economics and Sociology*, 17(1), 182-195. doi:10.14254/2071-789X.2024/17-1/12.

RECENT ISSUES IN ECONOMIC DEVELOPMENT

- Zegar, J., St. (2002). *Kwestia dochodów w rolnictwie chłopskim w okresie transformacji*, SGH, Warszawa, 61-71.
- Zegar, J., St. (2000). *Dochody ludności chłopskiej*. Monografia, IERiGŻ, Warszawa, 12, 71.
- Zegar, J., St. (2000), *Czynniki określające dochody ludności wiejskiej*. Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej Państwowy Instytut Badawczy, (IERiGŻ-PIB), Warszawa 2000, 5-36.