

**A study of agro-economic development
and its impact on socio-economic inequality in Ukraine**

Ulduza Novruzova*

Senior Lecturer

Azerbaijan State Economic University (UNEC)

AZ 1001, 6 Istiglyaliyat Str., Baku, Azerbaijan

<https://orcid.org/0000-0001-7612-0402>

Tarana Safarova

Assistant Professor

Azerbaijan State Economic University (UNEC)

AZ 1001, 6 Istiglyaliyat Str., Baku, Azerbaijan

<https://orcid.org/0000-0002-9595-1479>

Lila Armelina

PhD

Mediterranean University of Albania

1023, 52 Gjergj Fishta Blvd., Tirana, Albania

Abstract. In today's world, the problem of inequality is gaining global significance, and numerous international institutions set among their main tasks the fight against its manifestations – economic, social, etc. The study of economic inequality during martial law is extremely relevant, as it primarily negatively affects people's lives and well-being, provokes crises and additional social tensions, and, as a result, destabilizes the state system and the national economy, which are already in a state of crisis due to military operations. The purpose of this paper is to analyse the causes of social and financial stratification of Ukrainian society in the context of agro-economic development. The dynamics of salary in Ukraine, in particular, in the agricultural sector, was studied using the method of statistical analysis, and the index of general economic stratification was calculated using the Gini coefficient method. Statistical data on the development of the agricultural land market was analysed, starting from the end of the moratorium in July 2021 and until June 2023. As a result, the current key indicators of the land market in Ukraine, and information on salary in various sectors of the economy in the period from 2014 to 2022 were obtained, and the incomes of agricultural employees were analysed, which turned out to be below

Received: 02.09.2023, Revised: 27.11.2023, Accepted: 27.12.2023

Suggested Citation: Novruzova, U., Safarova, T., & Armelina L. (2023). A study of agro-economic development and its impact on socio-economic inequality in Ukraine. *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 10(4), 32-42. doi: 10.52566/msu-econ4.2023.32.



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

*Corresponding author

average. For a more objective assessment, statistics on the largest agricultural countries of the European Union were used and compared with their inequality indicators. The calculation of the Gini coefficient showed a 10% increase in the inequality of income distribution of Ukrainian households between 2014 and 2022, but it was still lower than the current indicators of such European countries as Germany, Sweden, and Poland. The practical significance of the work lies in the development of recommendations for reducing the gap between rich and poor in Ukraine, in particular in the agricultural sector, which can be used by the relevant authorities to redistribute the agricultural market and optimize tax legislation

Keywords: social injustice; agricultural economics; stratification of society; stratification; global hunger

Introduction

Economic inequality, in addition to the obvious social negative effect, has another dimension – the statistical one. In a stratified society, metadata does not fulfil its function and does not give a real picture – because average economic indicators may look acceptable from a mathematical point of view, which makes it much more difficult to diagnose such an economy. Since Ukraine is a recognized producer of agricultural products and the country's gross domestic product (GDP) depends to a large extent on agro-economic indicators, it is important to identify and analyse how the agro-industrial complex (AIC) affects the gap between wealth and poverty in Ukraine. Scholars have repeatedly addressed this pressing issue to find ways out of it. For example, A. Putytskyi (2022) generally rejected the use of the term “socio-economic inequality”, since economic inequality is only one component of social inequality, including in the agro-industrial sector. In his opinion, economic stratification is a rather dynamic process of redistribution within society, in which citizens migrate between strata (layers), emphasizing the two-sidedness and different intensity of this migration.

According to Y. Erdevdi (2020), economic inequality as a phenomenon has penetrated so deeply into all spheres of human life and has reached such relative values that the problem can no longer be solved at the level of national governments, but requires the involvement of higher institutions in the form of influential international organizations. According to the author, globalization is the reason for the tectonic shifts in society that have led to income polarization becoming a global trend in 2000-2020, and now it is necessary to develop an economically sound mechanism at the level of supranational structures to overcome extreme wealth, which should lead to the overcoming of extreme poverty. The problem of the world's agricultural deficit and the prospect of global hunger makes it necessary to speed up the adoption of such a decision.

What exactly does inequality in society consist of, was studied by V. Koibichuk & S. Drozd (2022) have studied the causes of inequality in society and concluded that the key factors include labour market systems, access to education, environmental protection, agricultural technologies, and healthcare facilities. Having formed a feature space of determinants that determine human inequality indicators, the authors developed a statistically significant econometric regression model of the degree of influence and identified opportunities to reduce gaps in the values of stratification

indicators. The fact that food is still the most important item of household expenditure in Ukraine indicates the low standard of living of the majority of the population, and the impact of agricultural products on these processes cannot be overestimated. O. Fomina & N. Hoholieva (2021) studied in detail the economic behaviour of households shaped by the current standard of living of citizens and, using the methods of economic and mathematical statistics, investigated the division of society by the level of average per capita equivalent income. As a result, the Lorenz curve confirmed the low level of population differentiation in Ukraine and the large number of poor households.

However, if analysing economic inequality purely by income, this indicator for Ukraine is low compared to most European countries. At the same time, the distribution of property, primarily privatized agricultural enterprises, between different stratification groups is extremely uneven, and this factor has a significant impact on the statistics. O. Cherechin *et al.* (2023), having studied this phenomenon, proved the need to change this imbalance to strengthen the social development of the state. The full-scale military invasion of Ukraine in February 2022 had a significant impact on all economic indicators, including the income stratification of the population. V. Koziuk & A. Kremez (2023), considering the issue in the context of differentiation of income distribution of Ukrainian citizens during the war period, stated that the economy lost not only human capital but also a large amount of agricultural land. One of the tools to remedy the critical situation is to revise the principles of burdening business, including farming, which would allow the state to have more working capital to respond quickly to new economic challenges.

As confirmed by numerous colleagues, the situation with economic inequality in Ukraine is extremely complex. The purpose of this paper is to analyse the current agro-economic situation in the country and to formulate our own proposals for overcoming the crisis and reducing the gap between the rich and the poor.

Materials and Methods

Using the method of statistical analysis, several key indicators of the development of Ukraine's economy as a whole and the agricultural sector were selected from the State Statistics Service of Ukraine (Average monthly salary..., n.d.), in particular, for 2014-2022. At the same time, the index of economic stratification was calculated, and the

correlation of these indicators was analysed using the method of pattern discovery. In particular, the following indicators of agricultural land market development in Ukraine were used, provided by the Ukrainian State Service of Ukraine for Geodesy, Cartography, and Cadastre (The official of the State Service..., n.d.), such as the number of registered agricultural lands in the state land cadastre, the average normative monetary value of arable land, the weighted average purchase and sale price of an agricultural land plot, the average number of purchase and sale transactions per day in 2023, the average size of a land plot of a purchase and sale transaction, the number of concluded purchase and sale transactions, and the area of registered purchase and sale transactions.

As for the area of land sales and purchase transactions and the weighted average price per hectare, a special visual chart was created to demonstrate the correlation between these factors in 2021-2023 based on data obtained from the Analytical Report (Nivevskyi *et al.*, 2023) and the Agropolit portal (Two years of the land..., 2023). Also, to assess the contribution of agriculture to the average monthly salary of full-time employees, this indicator was considered in comparison with the average salary in all industries in the period from 2014 to 2022. In addition, the comparison method was used to obtain the amount of arable land among such European Union leaders in this area as Poland, Sweden, and Germany, and compared with the social and economic stratification of these countries. The index of general economic stratification was calculated by calculating the Gini coefficient, which is the ratio of the area of the figure formed by the Cauchy distribution and the line of equality to the area of the triangle formed by the line of equality and the axes. In other words, if two figures are identical, the Gini coefficient is zero, and if they are completely unequal, it is one.

The calculation is performed according to the formula:

$$G = \frac{\sum_{i=1}^n \sum_{j=1}^n |y_i - y_j|}{2n^2 \bar{y}}, \quad (1)$$

where G is the Gini coefficient; n – number of households; y_i – the share of income of households of the category in the total income; $\bar{y}$ is the average arithmetic share of household incomes.

The use of this particular method in this paper is explained by a number of advantages of the Gini coefficient, such as the possibility of correct comparison of inequality indicators in regions with different populations, the ability to track the dynamics of uneven distribution of an indicator (i.e., income) in the aggregate at different stages, as well as anonymity, i.e., the exclusion of personal data of specific households or individuals from the calculations. The analysis of the correlation of these indicators, obtained from The World Bank portal (Gini index, n.d.), provided an answer to the degree of economic inequality in some agrarian countries of Europe and Ukraine, as well as the impact of the agro-industrial complex on it.

Results

Between 1 July 2021 and 31 December 2023, the turnover of agricultural land is allowed exclusively between Ukrainian citizens, and during this period, the alienation of privately owned agricultural land is allowed for no more than 100 hectares in one hand. Only from 1 January 2024, a Ukrainian citizen will be entitled to own agricultural land plots with a total area of up to 10,000 hectares (Law of Ukraine No. 552-IX..., 2020). Even though a little more than six months have passed since the adoption of the Law and the outbreak of full-scale war, the industry has started working in a new format and has a number of achievements, as summarized in Table 1.

Table 1. Key indicators of the agricultural land market in Ukraine as of June 2023

All lands are registered in the state land cadastre	43.6 million ha
Agricultural lands are registered in the state land cadastre	32.7 million ha
The average normative monetary value of arable land	27 520 UAH/ha
The average weighted price of the purchase and sale of the plot of agricultural land of destination	35 367 UAH/ha
The average number of purchase and sale transactions per day in June 2023.	213
The average size of the land plot of the sale agreement	2.21 ha
The number of concluded purchase and sale agreements	158 761
Area of registered purchase and sale agreements	351 251 ha

Source: developed by the authors based on the data of O. Nivevskyi *et al.* (2023)

In 2022, due to several reasons related to the war – the occupation of parts of the territories of Zaporizhzhia, Kharkiv, and Kherson regions, the outflow of the working population abroad, mobilization into the army, etc. – there was a significant decline in economic performance, with Ukraine's GDP falling by almost 30% (Tarasovskiy, 2023).

However, the land market in Ukraine almost never stopped operating, as evidenced by the statistics on access to land, both in terms of the number of transactions and the volume of land. Thus, according to the specialized agricultural portal Agropolit (Two years of the land..., 2023), 23 178 sale and purchase agreements were concluded in 2022, and

14 605 in 5 months of 2023. Thus, in less than half a year, 63% of the previous year's figures were achieved. More

complete and visual data on agricultural land sales are shown in Figure 1.



Figure 1. Dynamics of agricultural land sales in Ukraine in 2021-2023

Source: developed by the authors based on data from Two years of the land market in Ukraine: Achievements and failures, and how war has changed it (2023)

As can be seen from the Figure, after the market resumed in May 2022, the volume of land sold increased almost linearly, with the weighted average price per hectare fluctuating within roughly the same range throughout the entire period of observation. In terms of land use, according to the State Geocadastre (The official of the State Service ..., n.d.), sale and purchase transactions in 2023 were mainly for commodity land (47% of transactions) and land for private farming (45% of transactions). Since all commercial land, as well as a significant part of private farming land, was under a moratorium until July 2021, due to the larger average land plot size, commercial land dominates (66% of all land in circulation), while land for private farming accounts for only 23% of the total land area.

Land concentration is also an important parameter in assessing the objectivity and transparency of the land market. According to the legislation, starting from 2024, the restriction on the sale of land to one owner will be increased, but still will not exceed 10 thousand hectares (Two years of the land..., 2023). It is worth noting that the Law contains a safeguard that will prevent even banks from becoming agriholdings, as they will have the right to take away land plots pledged to them. To prevent banks from accumulating a huge amount of agricultural land in their assets, the law requires financial institutions to dispose of such land plots at land auctions within two years of acquiring ownership. In general, one of the key reasons for economic inequality is the uneven and inefficient distribution of income, which leads to the polarization of society, with economic "poles" forming between which there are structural disproportions in the quality of life. In this case, one conditional pole is occupied by poor people who are deprived of investment capital, real estate and, most importantly, the prospects of obtaining all of this. At the other pole is a much smaller stratum of oligarchs, who own virtually the entire industrial economic potential of the country.

The agricultural sector has a significant impact on economic inequality and, along with the growth of commodity production in the agricultural sector, the inequality of incomes is decreasing, but these indicators are unevenly distributed in the sector. In particular, the increase in grain production, driven by the introduction of technology, lower transport costs, and liberalized bank lending policies, has contributed to economic growth in Europe and, consequently, to poverty reduction (ITU & FAO, 2020). Technology is becoming an important factor in the development of agribusiness in Europe and Central Asia, which is taking place in the context of a growing demand for accessible and reliable information. Increasing agricultural revenues allow landowners to invest in modern digital technologies, which further increases business margins. However, the relationship between agricultural growth and income inequality is complex and depends on specific country and firm conditions. The conservatism of agricultural markets in developing countries, including limited redistribution of labour, can lead to an uneven distribution of poverty, especially in rural areas. Changes in procurement policies, such as quotas or export taxes, can quickly affect income inequality through changes in prices and salary. Reducing trade barriers in agriculture can increase market failures and demand asymmetries, leading to lower incomes and a widening gap between rich and poor.

In order to minimize these negative effects, another UN agency dealing with industrial development aims to promote industrial and agricultural development and accelerated industrialization in developing countries by mobilizing national and international resources. According to the latest joint report of UNIDO and the European Union (2021), many projects are dedicated to strengthening the agro-industrial complex of European countries and their sustainable development. In the long term, the development of agricultural technologies, productivity, intra-industry competition, and infrastructure development also

play a role in determining changes in income, poverty, and inequality, but given the indirect relationship between these processes, the level of such changes is difficult to predict. However, it is already clear that expanding the range of agricultural production and increasing the volume of agricultural products will provide consumers with access to cheaper and more diverse food, which will have a positive impact on their lives and health, and ultimately lead to better economic opportunities for the poor.

Overall, the obstacles to a more equitable distribution of agricultural trade revenues include ineffective policies to

address underlying inequalities and structural problems. These include poorly designed or underfunded agricultural development programmes; gender discrimination or marginalization of certain groups (e.g. migrant workers) in accessing productive resources; persistent barriers faced by the poor, women, and youth in accessing credit, knowledge, and markets; and excessive managerial influence over the marketing part of agricultural value chains. Another indicator of the relationship between the agro-industrial complex and the level of household consumption opportunities is the level of average salary in the dynamics (Table 2).

Table 2. Average monthly salary of full-time employees by type of economic activity in Ukraine by year, hryvnias

Activity	2014	2015	2016	2017	2018	2019	2020	2021	2022
Agriculture	2 476	3 140	3 916	5 761	7 166	8 738	9 734	11 733	12 243
Industry	3 988	4 789	5 902	7 631	9 633	11 788	12 759	14 902	15 176
Construction	2 860	3 551	4 731	6 251	7 845	9 356	9 832	11 289	9 781
Trade	3 439	4 692	5 808	7 631	9 404	10 795	11 286	13 488	15 103
Logistics	3 768	4 653	5 810	7 688	9 860	11 704	11 951	13 837	13 731
HoReCa	2 261	2 786	3 505	4 988	5 875	6 730	6 026	8 543	9 367
Communication sphere	5 176	7 111	9 530	12 018	14 276	17 543	19 888	25 530	30 829
Financial activity	7 020	8 603	10 227	12 865	16 161	19 132	20 379	23 975	27 986
Real estate	3 090	3 659	4 804	5 947	7 329	8 626	8 981	11 142	11 560
Research activities	5 290	6 736	8 060	10 039	12 144	14 550	16 613	19 369	20 497
Admin services	2 601	3 114	3 995	5 578	7 228	8 700	9 878	11 186	12 291
State defence	3 817	4 381	5 953	9 372	12 698	14 785	16 443	19 048	20 764
Education	2 745	3 132	3 769	5 857	7 041	8 135	9 271	11 817	11 999
Health care	2 463	2 853	3 435	5 023	5 898	7 087	8 995	11 825	14 002
Art and sport	3 626	4 134	4 844	6 608	7 612	8 659	9 624	12 508	11 567
Average indicator	3 641	4 489	5 619	7 550	9 345	11 089	12 111	14 679	15 793

Source: developed by the authors based on data of Average monthly salary of full-time employees by types of economic activity

To understand the correlation of the level of salary in the agro-economic sector and the national economy as a

whole, it is necessary to compare these two indicators in dynamics, which was visualized in Figure 2.

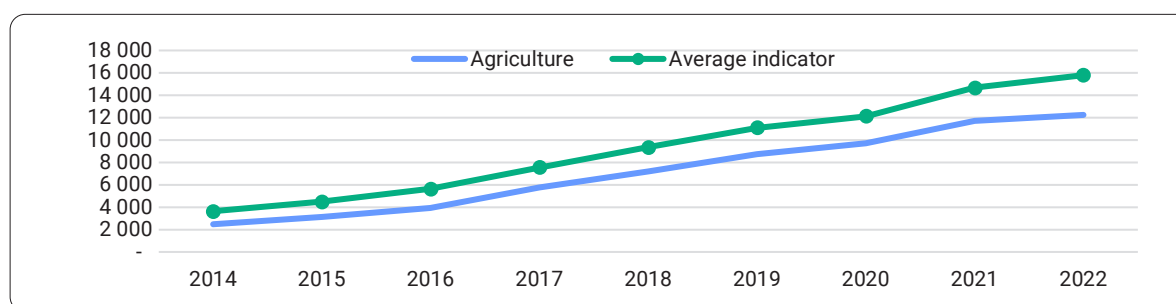


Figure 2. The average level of salary in Ukraine in relation to salary in the agricultural sector

Source: developed by the authors based on data of Average monthly salary of full-time employees by types of economic activity (n.d.)

According to the chart, the average salary level in Ukrainian agriculture over the previous nine years was lower than the multi-sectoral average. This leads to the conclusion that for ordinary agribusiness workers, belonging to the agro-industrial complex does not provide an

opportunity to receive a decent salary, but rather only deepens economic inequality in income. Moreover, the upward trend in salary in 2021-2022, which is noticeable for the national average, is much lower for agribusiness employees. It is also important to obtain data on economic

inequality in some European countries to track the relationship between these indicators. The most important generally recognized indicator of financial stratification of society is the Gini coefficient, which demonstrates the

inequality of household income distribution and takes a value between 0 (absolute equality) and 1 (absolute inequality). For Ukraine, this coefficient has a rather non-linear dynamics, as shown in Figure 3.

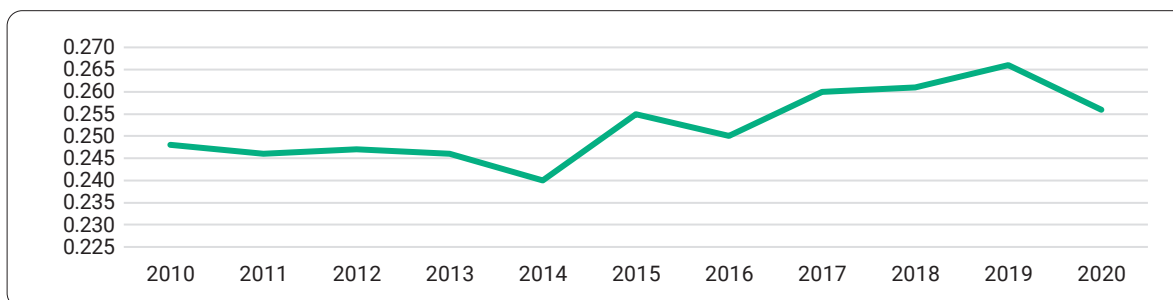


Figure 3. Gini coefficient of household income distribution in Ukraine

Source: developed by authors based on data of Gini index (n.d.)

As can be seen from the graph, from 2010 to 2014, the economic imbalance of society had a clearly visible downward trend, but in 2014 the trend reversed and in just one year, inequality indicators “played back” all the progress of the previous four years. Between 2014 and 2019, the Gini coefficient increased by 10%, which is most likely due to foreign aggression and the occupation of part of the country’s territory, which triggered additional economic and social problems in Ukrainian society.

To understand the general trend of economic inequality in Europe and to compare this data with Ukrainian indicators, a similar analysis was conducted for three European Union countries – Poland, as the geographically and historically the closest European country to Ukraine, Germany, as the continent’s economic leader, and Sweden, as the country stereotypically perceived as the most balanced in terms of social policy. The Gini coefficient for Poland is shown in Figure 4.

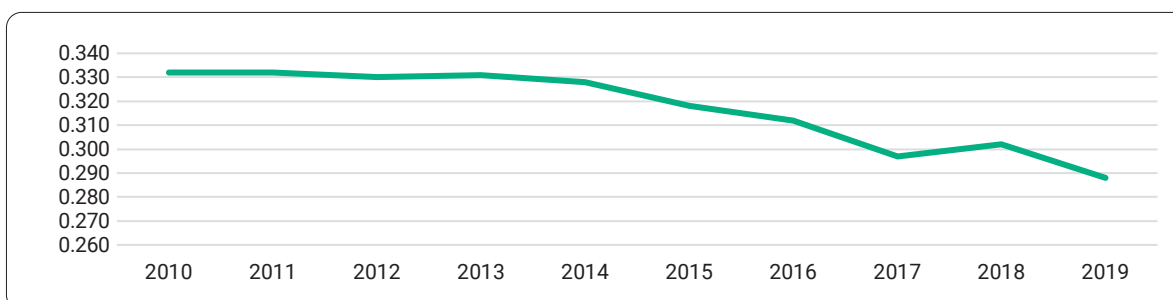


Figure 4. Gini coefficient of household income distribution in Poland

Source: developed by the authors based on data of Gini index (n.d.)

Given the trend of the graph above, it can be argued that economic inequality in Poland is significantly decreasing almost every year. However, even after a continuous

decline for almost a decade, Poland’s Gini coefficient in 2019 was still higher than Ukraine’s – 0.288 versus 0.265. The Gini coefficient for Germany is shown in Figure 5.

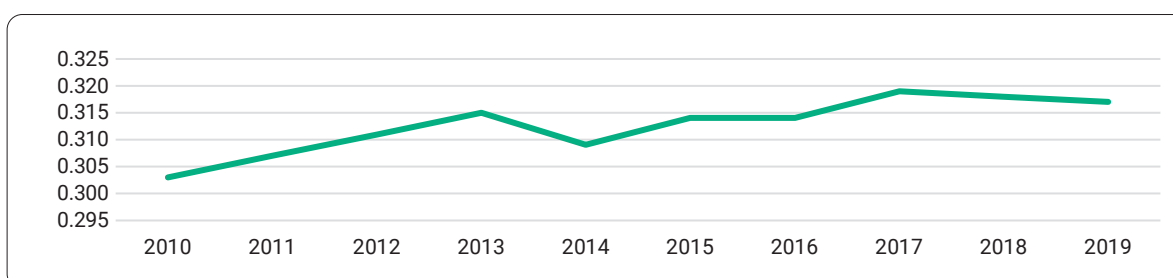


Figure 5. Gini coefficient of household income distribution in Germany

Source: developed by the authors based on data of Gini index (n.d.)

Economic inequality in Germany began to grow rapidly in 2010, likely due to liberalized migration policies and a significant influx of unskilled workers from less economically developed countries in Europe. The situation stabilized somewhat and formed a new balance point in 2013–2017, after which the fluctuations in the index became insignificant. It is important to note again that the index of

economic stratification in Germany is higher than in Ukraine, despite Ukraine's significant economic lag. Finally, for a comprehensive assessment of European inequality indicators, it is necessary to analyse the indicators of Sweden, which is a true welfare state by many measures, with an exceptional attitude to protecting all segments of the population. The Gini coefficient for Sweden is shown in Figure 6.

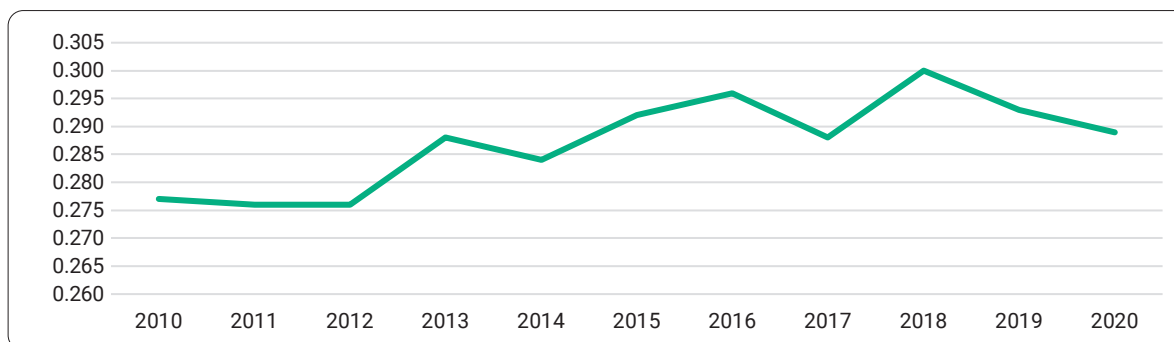


Figure 6. Gini coefficient of household income distribution in Sweden

Source: developed by the authors based on data of Gini index (n.d.)

Despite the rather non-linear shape of the Gini coefficient graph for Sweden, there is a fairly steady upward trend in this negative indicator. This may also be due to the rather liberal legislation on the admission of migrants and refugees who are willing to work for low salary by Swedish standards. The drop in the inequality indicator in 2020 may be caused by the COVID-19 pandemic and the resulting

temporary shortage of staff in the labour market. Thus, despite the stereotypes of extremely high income inequality in Ukraine and, conversely, the social justice policies of Western and Northern Europe, the actual state of affairs is quite different and Ukraine's indicators are the lowest. A comparative graph of the Gini indices of the four countries studied is shown in Figure 7.

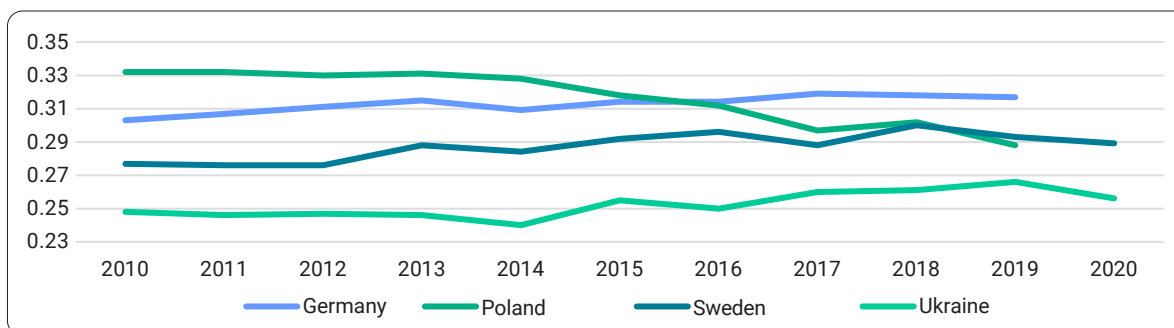


Figure 7. Comparison of the Gini coefficient

Source: developed by the authors based on data of Gini index (n.d.)

To summarize, Germany and Poland demonstrate higher inequality indicators than Ukraine. Thus, the stratification of Ukrainian society does not show signs of deep doom, but requires active action by civil society to normalize the situation and introduce a fair distribution of social benefits. Agriculture is different from most other businesses. Farmers' income is about 40% lower than non-agricultural income, despite the importance of food production (Korinets, 2023). In addition, agriculture is more dependent on weather and climate than many other industries. There is also an inflexible time lag between consumer demand and farmers' supply, meaning that growing more wheat or producing more milk cannot happen instantly.

A rational fiscal policy that reduces inequality by redistributing and better targeted expenditures to social security systems, education, and labour programmes that expand employment opportunities could address these contradictions. Such programmes include, in particular, the European Commission's Common Agricultural Policy Objectives (The common agricultural policy at a glance, n.d.), which outlines programmes to support incomes, public services and market-based measures to overcome difficult situations such as a sudden drop in demand until 2027.

Another proven lever of state influence is the active and prompt resolution of conflicts that inevitably arise after any reforms and the introduction of additional measures

to ensure an even distribution of income both within the country and in export-import relations. Greater access to education, information, and targeted programmes to promote geographical and sectoral mobility of workers is also essential, leading to greater independence for the most vulnerable labour groups. Such an approach would certainly help to harness the power of Ukraine's agricultural sector to achieve and sustain broad-based income growth, poverty reduction and greater equality.

If the current owners of agro-industrial holdings are not ready for positive changes and are not ready to increase the level of social justice for their staff, the state should intervene, ensuring, on the one hand, a fair redistribution of profits in this strategic sector through a system of social benefits, privileges and targeted assistance to agricultural employees, and, on the other hand, introducing such a mechanism of influence on agricultural oligarchs as progressive taxation. In some cases, it is also worth considering breaking up large, inert farms into smaller, more mobile, and open to innovation. However, the uniqueness of Ukraine at this point in history lies in the active hostilities in the southern and eastern regions and the permanent air threat throughout the country. Since numerous agricultural enterprises are concentrated in the South, structural reforms should be implemented after the victory in the demining of agricultural land.

Discussion

Analysing the results of this work, it is worth paying attention to the world experience of studying the issue of social and economic inequality, especially in the context of the impact of agro-economics on these processes. For example, A. Györi & I. Kovách (2023) studied land reform and privatization of collective land in the context of the dismantling of the Hungarian socialist system and stated that the structure of land ownership and land use changed significantly after the fall of the communist regime in most countries of Central and Eastern Europe, which can be observed in Ukraine. After examining the statistical relationship between land ownership structure and economic, social and infrastructural characteristics of communities, the authors conclude that municipal land use structure is a significant measure of social and economic inequality and find a causal relationship between the level of community development and clusters of municipal land use structure.

A similar study of the impact of the agricultural sector on household income was also conducted by T.Q. Tran *et al.* (2023), but instead of the agricultural sector, which is common for Ukraine, they used data from peasant aquaculture, which is more typical for Vietnam. Using data from the Household Living Standards Survey, the relationship between aquaculture, family income, and economic inequality was investigated. Using a two-stage cluster analysis, the authors found that for almost half of the respondents, fishing and related crafts are literally their livelihood, which is certainly different from the Ukrainian reality, where subsistence farming is not on such a large scale.

The important link between agriculture and the welfare of workers in the sector was investigated by N. Kaiser & C.K. Barstow (2022), through the prism of rural transport infrastructure development. Since rural transport is a key driver of many sustainable development goals and a significant factor in the socio-economic benefits for rural populations around the world, improving and expanding rural transport infrastructure brings significant benefits to rural residents. Accordingly, the need for the state to be interested in increasing the income of ordinary agricultural workers is consistent with similar conclusions of this paper. A certain inertia of large farms, mentioned above, was also noticed by R. Balogh *et al.* (2021). The unwillingness of large agricultural enterprises to change gives a competitive advantage to smaller farms, in particular, the introduction of more advanced precision agriculture, which guarantees increased profits for the owner and a reduction in the economic and property gap in the industry.

The state support of small farms, on which the topic of economic inequality in agribusiness directly depends, is the focus of the work of O. Skydan *et al.* (2023). According to their findings, small farms dominate the European agricultural landscape, but their representatives, unlike large farms, are almost not represented in sectoral decision-making structures, which reduces the degree to which the needs of small businesses are considered in public agricultural policy and support measures. This lack of representation limits the contribution of small farms to national food security, as was also observed in the course of this study. The imbalance of tax legislation for small farmers, which exacerbates economic stratification of society, has also been studied by I.D. Puspasari (2020). After analysing data from various sources over five years, the author concluded that the current system of land taxation does not allow farmers to gain economic independence and improve the living standards of their households.

In some countries with multi-level governance systems, the scale of regulatory interventions by the state and the number of permits can be confusing for farmers. Duplication of regulatory functions in the agricultural sector can cause chaos in the operation of agricultural complexes and negatively affect their efficiency and profitability. Having studied the environmental regulation of agriculture in the Australian state system, E. Hamman *et al.* (2021) propose a comprehensive and flexible regulatory policy that rewards farmers for following the rules of sustainable development and managing natural capital wisely, leading to a reduction in inequality in the economy.

As mentioned earlier in this paper, the unjust and unprovoked full-scale military aggression against Ukraine that began in February 2022 has had a huge negative impact on global food security. M. Marson & D. Saccone (2023), studying the current consequences of the war for grain exports, state the objective prerequisites for the emergence of millions of newly malnourished people around the world due to the complication of maritime trade in the Black Sea in grain crops, especially wheat and corn. Moreover, the

reduction of crop areas caused by the hostilities also has a negative impact on the welfare of Ukrainians working in the agricultural sector, who are forced to lose their only income.

Regarding the conditions for recognizing economic inequality as fair, which were mentioned in this article, K.-S. Trump (2020) and T. Cherkashyna (2022) also investigated situations in which inequality promotes development. In particular, they find that rising economic inequality does not directly affect the perception of justice, but can reduce the perception of meritocracy. In some cases, economic inequality can affect subjective well-being through psychological processes such as competition for status and social distance. As noted by G.B. Willis *et al.* (2022), perceived inequality is not related to objective inequality for several reasons: first, societies with real social inequality are too separated both mentally and physically, which, accordingly, reduces the chance of contact with a member of the "other" stratum. Secondly, people are more affected by signs of economic inequality in their everyday lives than by abstract news from the media. And finally, thirdly, ideologues serving the upper strata in a truly stratified society correct the attitude of the lower strata to reality. The dynamics of Sweden's indicators in the context of economic inequality analysed in this paper also attracted the interest of G. Thernborn (2020), who conducted a comparative empirical review of the growth of inequality in this Scandinavian country since 1980 and, using sociological analysis, found the dependence of stratification processes on the change of political generations and the new ideological climate.

According to J.D. García-Castro *et al.* (2020), one of the most effective ways to reduce economic inequality is to reduce tolerance for inequality and increase support for economic redistribution. Instead of measuring the effects of abstract perceived inequality (e.g., measured at the national level), it is important to consider the perceived economic inequality of citizens in their daily lives. The results of the study emphasize the importance of the perception of such tangible inequality as an additional tool when considering the psychosocial consequences of economic stratification. Another study on the topic of economic inequality, which also confirmed the findings of this paper, was conducted by D. Goya-Tocchetto & B.K. Payne (2022). In particular, according to the authors, inequality can function as a social context that shapes people's expectations, needs, desires, and affiliation with certain groups. At the same time, it is important to understand that absolute equality is also unacceptable, and in most cases, it is more appropriate to speak of injustice rather than inequality.

Assuming that inequality affects individuals from two directions – objective and subjective – A. Schmalor & S.J. Heine (2022) have shown that understanding the effects of economic inequality will be deepened if considering not only the actual state of affairs, but also how people perceive

inequality. The authors also noticed changes in the subjects' assessment of their economic inequality after the influence and beliefs of the experimenters, which indicates the subjective factor of the concept of justice, which is also mentioned in the current work. Comparing the above results with those obtained in the course of the study, it is worth noting the international nature of the concept of economic inequality, as well as the common manifestations of this social factor in the context of the agrarian economy.

Conclusions

The aim of the study was to analyse the causes and consequences of economic inequality and to find ways to reduce the gap between rich and poor, and it revealed rather low salary in the industry, which are even lower than the average salary in the country, and a steady increase in economic stratification of the population during 2014-2020. However, the lifting of the moratorium on the sale of agricultural land in Ukraine in 2021 had a positive impact on the further development of the industry. Moreover, even the outbreak of a full-scale war could not stop these processes.

After analysing the performance of several leading EU agricultural countries, it was noted that despite the significant economic advantage of Poland, Germany, and Sweden over Ukraine, economic inequality in these countries, although trending downwards, still exceeds Ukrainian indicators. Another important conclusion is that, as the amount of arable land in the EU remained almost unchanged over the 10 years from 2010 to 2020, the success of a modern agricultural sector is correlated not with the area, but with the technologies used to use it. This is especially important in the context of the existing long-term programme to support European farmers, as mentioned above.

Overall, it has been proven that working with agricultural products requires targeted efforts to guarantee equal access and economic opportunities for women, youth, poor farmers, and other vulnerable groups. To mitigate the potentially negative impacts of increased competition from food imports, smallholder farmers need access to finance, resources, knowledge, and markets, as well as workable schemes to diversify their income sources, including off-farm activities. An additional measure to prevent further widening of economic inequality could be a government targeted programme to support small farmers to create a balance in the grain market, like the European one. The design and economic feasibility of such a programme could be the subject of a future study.

Acknowledgements

None.

Conflict of Interest

None.

References

- [1] Average monthly salary of full-time employees by types of economic activity. (n.d.). Retrieved from https://ukrstat.gov.ua/operativ/operativ2021/gdn/szpshp/arh_szp_ed_u.html.

- [2] Balogh, P., Bai, A., Czibere, I., Kovách, I., Fodor, L., Bujdos, Á., Sulyok, D., Gabnai, Z., & Birkner, Z. (2021). Economic and social barriers of precision farming in Hungary. *Agronomy*, 11(6), article number 1112. [doi: 10.3390/agronomy11061112](https://doi.org/10.3390/agronomy11061112).
- [3] Cherechin, O., Komar, V., Borzov, O., Voievidka, I., & Borodin, Y. (2023). Key directions to overcome economic inequality for enhancing the social development of the state. *Scientific Notes of Lviv University of Business and Law*, 37, 431-436. [doi: 10.5281/zenodo.8120785](https://doi.org/10.5281/zenodo.8120785).
- [4] Cherkashyna, T. (2022). Taxonomic analysis of income inequality in the EU countries. *Economics of Development*, 21(4), 8-18. [doi: 10.57111/econ.21\(4\).2022.8-18](https://doi.org/10.57111/econ.21(4).2022.8-18).
- [5] Erdevdi, Y. (2020). Analysis of international organizations in overcoming inequality. *Young Scientist*, 4(80), 26-29. [doi: 10.32839/2304-5809/2020-4-80-6](https://doi.org/10.32839/2304-5809/2020-4-80-6).
- [6] Fomina, O., & Hoholieva, N. (2021). Income inequality in Ukraine: Features of economic behavior of households. *Scientific Bulletin of KSU. Series "Economic Sciences"*, 42, 5-11. [doi: 10.32999/ksu2307-8030/2021-42-1](https://doi.org/10.32999/ksu2307-8030/2021-42-1).
- [7] García-Castro, J.D., Rodríguez-Bailón, R., & Willis, G.B. (2020). Perceiving economic inequality in everyday life decreases tolerance to inequality. *Journal of Experimental Social Psychology*, 90, article number 104019. [doi: 10.1016/j.jesp.2020.104019](https://doi.org/10.1016/j.jesp.2020.104019).
- [8] Gini index. (n.d.). Retrieved from <https://data.worldbank.org/indicator/SI.POV.GINI>.
- [9] Goya-Tocchetto, D., & Payne, B.K. (2022). How economic inequality shapes thought and action. *Journal of Consumer Psychology*, 32(1), 146-161. [doi: 10.1002/jcpy.1277](https://doi.org/10.1002/jcpy.1277).
- [10] Györi, Á., & Kovách, I. (2023). The new dimension of social inequality: The agricultural land use structure and the development level of settlements. *Social Sciences*, 12(2), article number 88. [doi: 10.3390/socsci12020088](https://doi.org/10.3390/socsci12020088).
- [11] Hamman, E., Deane, F., Kennedy, A., Huggins, A., & Nay, Z. (2021). Environmental regulation of agriculture in federal systems of government: The case of Australia. *Agronomy*, 11(8), article number 1478. [doi: 10.3390/agronomy11081478](https://doi.org/10.3390/agronomy11081478).
- [12] ITU & FAO. (2020). *Status of digital agriculture in 18 countries of Europe and Central Asia*. Geneva: International Telecommunication Union & Food and Agriculture Organization.
- [13] Kaiser, N., & Barstow, C.K. (2022). Rural transportation infrastructure in low- and middle-income countries: A review of impacts, implications, and interventions. *Sustainability*, 14(4), article number 2149. [doi: 10.3390/su14042149](https://doi.org/10.3390/su14042149).
- [14] Koibichuk, V., & Drozd, S. (2023). Intensification of economic growth in the context of reducing human inequality differentiation. *Black Sea Economic Studies*, 74, 240-248. [doi: 10.32843/bses.74-36](https://doi.org/10.32843/bses.74-36).
- [15] Korinets R. (2023). *Rural development*. Kyiv: Germany-Ukraine agricultural policy dialogue.
- [16] Koziuk, V., & Kremez, A. (2023). Differentiation of income distribution in the population of Ukraine during the war and post-war period. *Innovation and Sustainability*, 1, 64-71. [doi: 10.31649/ins.2023.1.64.71](https://doi.org/10.31649/ins.2023.1.64.71).
- [17] Law of Ukraine No. 552-IX "On Making Changes to Some Legislative Acts of Ukraine Regarding the Terms of Circulation of Agricultural Land". (2020, March). Retrieved from <https://zakon.rada.gov.ua/laws/show/552-20#Text>.
- [18] Marson, M., & Saccone, D. (2023). Fed with import and starved by war: Estimating the consequences of the Russia-Ukraine conflict on cereals trade and global hunger. *International Economics and Economic Policy*, 20, 413-423. [doi: 10.1007/s10368-023-00564-x](https://doi.org/10.1007/s10368-023-00564-x).
- [19] Nivevskyi, O., Neyter, R., Yurchenko, E., Piddubnyi, I., Manzhura, D., Kolodiaznyi, I., Stolnykovych, H., & Zamidra, S. (2023). *Analytical overview of the state of the land market in Ukraine*. Kyiv: KSE Agrocenter.
- [20] Puspasari, I.D. (2020). The dilemma of taxation law for small farmer. *International Journal of Religious and Cultural Studies*, 2(1), 11-18. [doi: 10.34199/ijracs.2020.04.03](https://doi.org/10.34199/ijracs.2020.04.03).
- [21] Putytskyi, A. (2022). Economic inequality and economic stratification: Their types and relationship. In *Strategic priorities for socio-economic development in the context of institutional transformations in the global environment: Materials of X international scientific-practical conference* (pp. 74-78). Lviv-Torun: Liha-Pres. [doi: 10.36059/978-966-397-254-1-18](https://doi.org/10.36059/978-966-397-254-1-18).
- [22] Schmalor, A., & Heine, S.J. (2022). The construct of subjective economic inequality. *Social Psychological and Personality Science*, 13(1), 210-219. [doi: 10.1177/1948550621996867](https://doi.org/10.1177/1948550621996867).
- [23] Skydan, O., Vilenchuk, O., Pyvovar, P., Topolnytskyi, P., & Shubenko, I. (2023). Identification and interpretation of internal factors influencing the agricultural insurance market in Ukraine. *Scientific Horizons*, 26(10), 150-162. [doi: 10.48077/scihor10.2023.150](https://doi.org/10.48077/scihor10.2023.150).
- [24] Tarasovskyi, Yu. (2023). *Ukraine's GDP fell by 29.1% at the end of 2022, according to State Statistics*. Retrieved from <https://forbes.ua/news/vvp-ukraini-za-pidsumkami-2022-roku-vpav-na-291-derzhstat-13042023-13041>.
- [25] The common agricultural policy at a glance. (n.d.). Retrieved from https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en.
- [26] The official of the State Service of Ukraine for Geodesy, Cartography. (n.d.). Retrieved from <https://land.gov.ua/>.
- [27] Therborn, G. (2020). Sweden's turn to economic inequality, 1982-2019. *Structural Change and Economic Dynamics*, 52, 159-166. [doi: 10.1016/j.strueco.2019.10.005](https://doi.org/10.1016/j.strueco.2019.10.005).
- [27] Tran, T.Q., Vu, H.V., & Nguyen, T.V. (2023). Aquaculture, household income and inequality in Vietnam's coastal region. *Marine Policy*, 153, article number 105634. [doi: 10.1016/j.marpol.2023.105634](https://doi.org/10.1016/j.marpol.2023.105634).

- [28] Trump, K.-S. (2020). When and why is economic inequality seen as fair. *Current Opinion in Behavioral Sciences*, 34, 46-51. doi: 10.1016/j.cobeha.2019.12.001.
- [29] Two years of the land market in Ukraine: Achievements and failures, and how war has changed it. (2023). Retrieved from <https://agropolit.com/spetsproekty/1018-dva-roki-rinku-zemli-v-ukrayini--dosyagnennya-ta-provali-i-yak-yogo-zminili-viyna>.
- [30] UNIDO and the European Union. (2021). Retrieved from <https://www.unido.org/sites/default/files/unido-publications/2022-12/UNIDO-European-Union-SOTIP-2021-en.pdf>.
- [31] Willis, G.B., García-Sánchez, E., Sánchez-Rodríguez, Á., García-Castro, J.D., & Rodríguez-Bailón, R. (2022). The psychosocial effects of economic inequality depend on its perception. *Nature Reviews Psychology*, 1, 301-309. doi: 10.1038/s44159-022-00044-0.

Дослідження агроекономічного розвитку та його впливу на соціально-економічну нерівність в Україні

Ульдуза Новрузова

Старший викладач

Азербайджанський державний економічний університет
AZ 1001, вул. Істігліяліят, 6, м. Баку, Азербайджан
<https://orcid.org/0000-0001-7612-0402>

Тарана Сафарова

Доцент

Азербайджанський державний економічний університет
AZ 1001, вул. Істігліяліят, 6, м. Баку, Азербайджан
<https://orcid.org/0000-0002-9595-1479>

Ліла Армеліна

Доктор філософії

Середземноморський університет Албанії
1023, бульв. Джердж Фішта, 52, м. Тирана, Албанія

Анотація. У сучасному світі проблема нерівності набуває глобального значення і велика кількість міжнародних інституцій ставлять у числі головних своїх задач боротьбу з її проявами – економічними, соціальними тощо. Дослідження економічної нерівності саме під час воєнного стану є вкрай актуальним, адже вона, в першу чергу, негативно впливає на життя та добробут людей, провокує кризи та додаткову соціальну напруженість і, як наслідок, дестабілізує державну систему та національну економіку, які вже знаходяться у кризовому стані через воєнні дії. Метою даної роботи було проаналізувати причини соціального та фінансового розшарування українського суспільства у контексті агроекономічного розвитку. Методом статистичного аналізу була досліджена динаміка заробітних плат в Україні, зокрема, в агропромисловому секторі, а за допомогою методу вираховування коефіцієнта Джині, був розрахований індекс загального економічного розшарування. Були проаналізовані статистичні дані щодо розвитку ринку землі сільськогосподарського призначення – починаючи від припинення мораторію у липні 2021 року і до червня 2023 року. В результаті були отримані актуальні ключові показники земельного ринку в Україні, відомості щодо заробітної платні у різних галузях народного господарства у період з 2014 по 2022 рік та проведено аналіз доходів співробітників агропромислового комплексу, що виявилися нижчими за середні показники. Для більш об'єктивної оцінки була залучена статистика по найбільшим аграрним державам Європейського Союзу та зіставлена з їх показниками нерівності. Розрахунок коефіцієнту Джині продемонстрував у період з 2014 по 2022 рік зростання на 10 % нерівності розподілу доходів українських домогосподарств, проте все одно виявився нижчим за актуальні показники таких європейських країн як Німеччина, Швеція та Польща. Практична значимість роботи полягає в розробці рекомендацій щодо зменшення розриву між багатими та бідними в Україні, зокрема, в агропромисловій галузі, які можуть бути використані відповідними владними структурами задля перерозподілу аграрного ринку та оптимізації податкового законодавства.

Ключові слова: соціальна несправедливість; агроекономіка; розшарування суспільства; стратифікація; глобальний голод