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# RETIREMENT BEHAVIOR STRATEGIES: THE ATTITUDES OF STUDENTS FROM POLAND AND UKRAINE TOWARDS THE OLD-AGE RISK

## Abstract

Digitalization and technological advancement, referred to as the Fourth Industrial Revolution (Industry 4.0), results not only in technological innovation but also in the changes in society and public awareness. One such tendency is the demographic aging, which implicates two concerns: the instability of the public pension systems and the social awareness related with the risk of major reduction of benefits in contrast to the expectations and the need for the additional private pension security. The research has aimed to identify the opinions and attitudes of the students from Poland and Ukraine in respect to the broadly understood issues of the old age security, as well as to recognize the prospective differences in this field between the researched populations. The relevant research was conducted using the PAPI method in the years 2018–2019. Within the framework of the research, nine specific hypotheses were presented concerning the attitudes towards the selected aspects of the pension schemes and old-age security. The results were compiled in the form of the semantic differential, and the Mann-Whitney U test was utilized to verify the significance of the differences in the distribution of the answers given by the students. Those served as the basis for formulating the conclusions regarding similarities and differences in the opinions expressed by young people studied populations.

## Keywords

pension strategies, pension system, retirement awareness, old-age risk, financial education, social security, public and private pensions

## JEL Classification

H55, J26, E21

## INTRODUCTION

The ongoing digitalization and technological advancement, referred to as the Fourth Industrial Revolution, implicate several changes in technological processes and numerous aspects of society, social life, and public awareness. The dynamic demographic changes occurring in Europe, related to the population aging, are particularly the source of new structural challenges for the economy in economic, societal, and cultural areas. One such critical area for each economy is the social pension system for elderly people (at the state pension age), which requires redefinition within the Fourth Industrial Revolution and the mega-trends related with the societal processes (i.e., digitalization, population aging, glut economy, knowledge-based economy, information asymmetry, social inequality in the field of access to and use of private goods). Given the increasing average life expectancy in the European societies, maintaining the social welfare system, developed in the latter half of the 19th century and reinforcing the sense of entitlement within the framework of the public finance system, particularly in the countries of the former Soviet bloc, become challenging in terms of policies in the European countries, particularly the countries in Middle-Eastern Europe.

Poland and Ukraine are culturally kindred nations sharing the common historical roots, including affiliation with the Soviet bloc, and divided by the fact that in 1989 Poland adapted to the requirements and standards developed by the countries of Western Europe and, having integrated with the European Union in 2004, Poland became a part of the European community. In contrast, Ukraine fought for and became independent but is still fighting for its identity and is not a member state of the European Union yet. It means that the standards developed by the European Union are not binding for Ukraine, but this country is still susceptible to the influence of globalization and other international mega-trends. One such trend noticeable in both countries is the aging society.

## 1. LITERATURE REVIEW

The pension system's quality is one of the most important tasks of the state, and its solution significantly affects various aspects of public life. The standard of living of a person after his retirement is a certain result of his life strategies, and working on this result is a task not only of the citizen himself but also of the pension system and the state as a whole. A person who is accustomed to state support does not have the necessary skills (Komarova, Tsvetkova, Kozlovskaya, & Pronkin, 2019) to make the rational decision concerning voluntary saving for retirement, choose non-state pension funds to assess risks (Merlo, Dankiewicz, & Ostrowska-Dankiewicz, 2013; Pyrkova, Kaigorodova, Mustafina, & Alyakina, 2018), choose an investment portfolio (Tsvetkova, Yurieva, Orłaniuk-Malitskaia, & Plakhova, 2019) in the face of multiple reforms of the pension system, finds himself in a situation of distrust and wariness (Sułkowska, 2014; Kozmenko & Belova, 2015; Khovrak, 2017; Sułkowska, 2017; Adamska-Mieruszewska, Bak, Grzebieniak, Jedynak, ..., & Witkowska, 2018; Bogoviz, Tsvetkova, Bodiako, Gimelshteyn, & Tretyakova, 2019; Bucovețchi, Slușariuc, & Činčalová, 2019), in which he can completely abandon of any actions within his retirement strategy (Yushkova & Doroshenko, 2019, pp. 41-42).

The strategy of retirement behavior is determined by various factors of an objective and subjective nature (Knoll, 2011; Ciumara, 2014; Sushko, 2017; Płonka, 2019) and is aimed at ensuring decent con-

ditions, level and quality of life after completion of work (Shabunova & Belekhova, 2012). First of all, it is connected with the formation of pension plans (Jedynak, 2019a) and the creation of savings. Since in a postindustrial society, a classical pension, as compulsory and unified insurance of lost earnings, is transformed into voluntary private pension systems consisting of any savings of citizens and investments in human capital, and state poverty insurance in case of disability (Nazarov, 2012, p. 67).

Based on various definitions of the social security, formulated both in the international legal acts of law<sup>1</sup> and the related literature (Handschke & Monkiewicz, 2010, pp. 478-479; Jończyk, 2014, p. 14), the pension plan is broadly defined as the body of institutional arrangements addressing the old-age risk. Those arrangements apply to both the regulations governing the acquisition of pension rights, as well as the payment of benefits and their objective is to secure adequate means of subsistence for the participants of the system when they can no longer remain professionally active (Szumlicz, 2010, p. 493; Kozlov, Finogenova, & Khominich, 2017). The term pension plan is defined as such refers solely to the systemic (institutional) arrangement; the other component of the pension system stems from the supplementary actions realized within the framework of personal foresight or with relatives or close friends' aid.

The Europe 2020 (European Commission, 2010) strategy provides for the social expenditures and institutions to be treated as investments, which

<sup>1</sup> Particularly the so-called social risk profile formulated for the first time in the Convention 102 of the International Labour Organisation concerning the minimal standards of the social security. More on the subject in, i.e., Convention 102 of the International Labour Organisation concerning minimal standards of the social security, 35th session of the Conference of International Labour Organisation, [www.mop.pl](http://www.mop.pl) (May 20, 2018); European Social Charter drawn up in Turin on the 18th of October 1961 (Journal of Laws of the Republic of Poland 1999 no. 8, item 67); The Treaty on European Union and the Treaty on the Functioning of the European Union (OJEU 2010/C 83/01, consolidated versions); Regulation (EC) No 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems (OJEU 2004 L166); Charter of Fundamental Rights of the European Union of 7 December 2018 (OJEU 2010 C 83/391);

should secure economic growth and social inclusivity. As far as the elderly are concerned, preventing poverty and social exclusion is the primary concern addressed by the systemic arrangement. Against that background, the construct of new social risks has emerged, among which the risk of poverty and the risk of significant reduction of benefits (including pension and healthcare) bring about major concerns (Czepulis-Rutkowska, 2013; Klonowska & Pawełek, 2019).

From the pension plans perspective, the old age is demarcated from the period of professional engagement by determining the retirement age. In the countries affiliated to the Organisation for Economic Co-operation and Development (OECD), the state pension age oscillates between the age of 60 (e.g., Turkey, Belgium, Luxembourg) and 67 (Israel, Iceland, Norway). In some of them, the state pension age is gender-differentiated and is lower for women (e.g., Poland, Great Britain, Austria). However, the threshold of the old age defined in such a manner is indefinite and susceptible to changes over time. For more information on the subject of the current and planned state pension age in OECD countries, see OECD (2019), Jedynak (2016).

In the Polish pension system (as of 2020), the state pension age is 60 years old for women and 65 – for men. In the Ukrainian pension system (as of 2020), the state pension age is 60 years old with the concurrent pre-condition of 27 qualifying years of national insurance contributions or credits to become eligible for the pension benefits. Every year, the job seniority indicator rises until reaching 35 qualifying years in 2028. Furthermore, Ukraine is facing the paradigmatic reform of the pension system (Kozmenko, & Mospanova, 2016; Achkasova, 2018; Horbunova, Kartseva, Pedchenko, & Ostapenko, 2018). The Polish pension system is multi-leveled. It consists of the mandatory public system based on generational solidarity and low pension benefits, the additional system organized by employers for improving benefit adequacy, and the individual, fully voluntary system of additional pension security. The Ukrainian pension system consists of three pillars: the public solidarity system, the additional non-public pension, and voluntary saving. Frequent changes in the pension system in Poland and Ukraine, in particular,

do not arouse trust and challenge the state with the crucial issue of developing social trust. In Poland and Ukraine, the voluntary pension saving scheme is developing slowly, which accounts for the real threat of old-age poverty, particularly the risk of significant reduction of benefits against the expectations. Thus, the question arises whether paying only the mandatory national insurance contributions will cover all costs of living and old-age expenses in both of the researched countries (Jedynak, 2019b).

The fundamental challenge for modern pension systems is the population aging, which proceeds at a different rate in several countries. However, the overall tendency is visible. In comparison to 1990, life expectancy in Poland increased by 7.6 years and by 6.5 years in the case of women and men, respectively (GUS, 2019a, p. 8). In Ukraine, the average life expectancy increased by 1.1 years and 1.9 years in the case of men and women, respectively (Statistics Service of Ukraine, 2019, p. 56). In Poland, the life expectancy in 2018 was two years longer than in Ukraine. More detailed data on this subject are presented in Table 1.

**Table 1.** Life expectancy in terms of years in Poland and Ukraine (2018)

Source: GUS (2019a, p.8), Statistics Service of Ukraine (2019, p. 56).

Itemization	General	Women	Men
Poland	73.8	81.7	73.8
Ukraine	71.8	76.7	66.7

Another challenge related to the old-age poverty risk is the ratio of individuals at the post-working age to individuals at the working age (the demographic dependency ratio), which even now significantly deviates from the inter-generational solidarity underlying the Pay-As-You-Go model of financing benefits dominant in the traditional pension systems. The demographic dependency ratio of pensioners, the number of individuals at the post-working age per 100 individuals at the working age, for Poland and Ukraine in comparison to the European Union average, are presented in Table 2.

In 2008, in Poland, the demographic dependency ratio equaled 22.4 (GUS, 2009) individuals according to the formula presented in the table and, thus,

**Table 2.** Aging of the populace (in %) and the demographic dependency ratio of the pensioners in Poland and Ukraine in comparison to the European average (2018)

Source: CIS (2018, p. 100), GUS (2019b), Statista (2019).

Country	0-14 years old	15-64 years old	Above 65 years old	The demographic dependency ratio
Poland	15.1	67.2	17.4	25.89
Ukraine	15.8	67.8	16.4	24.22
The European Union (average)	15.6	65.0	19.4	28.84

it increased by 3.49 individuals per 100 individuals at the working age in 2018. In 2008, in Ukraine, there was 15.9% of the population aged 0-14 years old, 70.01% of the population aged 15-64 years old, and 14.09% of the population aged 64 years old or more (USAID, 2018) and, thus, the demographic dependency ratio increased by 4.1 individuals per 100 individuals at the working age. The situation is further exacerbated by the decrease in the number of able-bodied individuals in the labor market as a consequence of military activity. Given the analysis of the cited data, it should be noted that the presented demographic dependency ratio paints a picture not fully reflecting the reality of the problem as it is based solely on the aging profile and it does not take into consideration the fact that the youth aged 14-19 years old and often older are students and not workers, it does not include the unemployment rate and the handicapped among the working-age population. In practice, a significantly higher demographic dependency ratio may be assumed.

The questions of maintaining financial stability, ensuring revenue adequacy of benefits, and adapting the regulations governing participation in the pension system to the changing labor market are relevant in the context of the aging populations of Poland and Ukraine. From the perspective of the system's participants and future pensioners, the crucial issue is to examine the attitudes toward and the public awareness of those concerns.

Several factors influence the attitudes towards the old-age risk. One can indicate the socio-demographic factors characterizing the researched features (age, gender, education, place of residence, etc.), as well as the external factors shaping social attitudes. Thus, bearing in mind the issues discussed in this article, the empirical studies concerning the attitude of Polish and Ukrainian students towards the old-age risk were preceded by the analysis of the awareness of the pension sys-

tems in Poland and Ukraine in light of the secondary data. This analysis refers to three fundamental issues, mainly the cultural and historical aspect, the pension awareness term, and the inclinations towards gathering pension savings.

The crucial cultural and historical factor that fundamentally influences the attitudes of Polish and Ukrainian households towards the problems relating to the pension systems is the lack of the developed propensity for saving resulting from the lack of stability, the feeling of insecurity, and bad past experiences. In the countries of Western Europe, the ethos of saving is significantly stronger, particularly in the countries developed within the framework of the traditional protestant ethics of working and saving (Góra, 2016, p. 14).

In both Poland and Ukraine, the societal development is pre-conditioned by Socialist philosophy described as the *homo sovieticus*, according to which the state is responsible for the entirety of the pension system and cares for the benefits of future pensioners, which, in turn, implicates demanding attitude, sense of entitlement, and low level of individual foresightedness. It is evidenced by the opinion of 54% of the Polish respondents who indicate that the state is responsible for individuals' financial standing after retirement. This answer is particularly common among the people with a basic or elementary level of education and low subjective and objective economic education. However, this opinion is also expressed by 47% of individuals with advanced education. Only 22% of the respondents consider pension security to be the responsibility of both the state and individual citizens, and according to 24% of the respondents, everyone should think about oneself and not count on the state pension system (NBP, 2015).

In another survey, 74% of interviewees believe that a pension based on the mandatory national insur-

ance contributions will not cover all their living expenses, and 30% believe it will not even cover the essentials. Concurrently, the majority of the respondents have a positive outlook on retirement. Only a small percentage of the respondents associate the pension period with financial hardships or the necessity for further professional engagement (TNS, 2016, p. 3).

The awareness of the old-age security (the pension awareness) is closely related to the financial awareness understood as the *knowledge, understanding, skills, and motivation, and confidence to make financial decisions appropriate for the circumstances of a given individual*. Financial awareness covers four components:

- the financial knowledge in the area of financial terms and conditions (Kozmenko, & Roienko, 2013; Kaigorodova & Mustafina, 2014, p. 118; Strupczewski, 2018, Stanienda, 2019), financial products or the own financial standing;
- the ability to interpret financial information (Khovrak & Petchenko, 2015; Kaigorodova, Alyakina, Pyrkova, Mustafina, & Trynchuk, 2018), make decisions, choose financial products adequate for personal circumstances (Lutsyshyn, Klapkiv, Kucher, & Svirskyi, 2019; Mustafina, Kaigorodova, Alyakina, Velichko, & Zainullina, 2020);
- the attitude – the awareness and approach towards own financial standing, responsibility for own finances (A. Cwynar, W. Cwynar, Dankiewicz, Ostrowska-Dankiewicz, & Oratowski, 2019), public administration and financial services' providers (Achkasova, 2015);
- behavior – planning and managing the budget, saving up for unforeseen expenses, proper counseling, and saving up for the retirement period (Zdanowska, 2012, pp. 214-216).

The financial awareness is, in turn, influenced by the financial education (Rotova & Trynchuk, 2004; Kaigorodova, Kosarenko, Shapovalov, Sayfutdinova, Sharonov, Ignatov, & Kartushina, 2017; Horyslavets, Plonka, & Trynchuk, 2018) understood as taking extensive actions in order to

propagate knowledge and develop positive habits among the citizens, which facilitates making appropriate decisions in the field of managing personal resources in accordance with the current and future needs.

The very term pension awareness has not yet been clearly defined in the related literature despite being frequently used in both literature and media (Czapiński & Góra, 2016; Leśna-Wierszołowicz, 2017; Solarz, 2019). To define what pension awareness is, one must thus refer to the broader terms of financial literacy and insurance awareness. On the grounds of Szumlicz's (2006) definition of the insurance awareness and Zdanowska's (2012) definition of the financial literacy, one can define the pension awareness as the knowledge and skills in possession of an individual, which allow him to rationally use the pension security instruments appropriate for the specific circumstances.

The pension awareness understood in this manner has been for years the subject of numerous studies and analyses. It should be emphasized that those studies display a picture of the low pension awareness of Poles. For instance, the studies of Czapiński and Góra (2016) indicate that 7% of Poles do not know completely where their national insurance contributions accumulate, and fewer than 24% of the respondents can indicate what percentage of their salaries is the pension contribution. Similar conclusions on the pension-related knowledge of Poles can be drawn on the grounds of the research project *conducted by TNS Polska for Nationale-Nederlanden*, which indicates that fewer than 27% of Poles declare to take advantage of voluntary pension schemes.

The overall image of Poles' low pension awareness is reinforced by the lack of the knowledge concerning the level of pension benefits provided by the basic component of the pension system (Cycoń, Jedynek, & Płonka, 2020), as well as the low self-evaluation of the "retirement knowledge" declared in the research by 48% of respondents who claim that their knowledge regarding this subject is limited or very limited (NBP, 2015).

While summarizing the deliberations concerning pension awareness, it is prudent to note that the mandatory contributions and the pension benefits

are not integrally connected with the awareness of the pension system's participants. Paraphrasing Płonka's matrix model (Płonka, 2003, pp. 337-339), one can distinguish four decision-making situations and types of attitude related to the propensity for pension security:

- 1) an individual possesses the pension awareness and takes actions concerning the old-age security, which implicates the most desirable type of attitude;
- 2) an individual possesses the pension awareness and no actions concerning the old-age security are taken, which implicates the existence of obstacles stopping an individual from taking such actions (financial, cultural, trust-related);
- 3) an individual does not possess the pension awareness, but actions concerning the old-age security are taken at the level of the obligatory contributions treated as a quasi-fiscal charge; it is the problematic "passive segment" towards the supplemental forms of the pension security;
- 4) an individual does not possess the pension awareness, and no actions concerning the old-age security are taken; it is the most problematic "zero segment," which can be activated through education.

The inclination towards the supplemental retirement saving is the ability of an individual to postpone consumption until the end of professional engagement. The propensity for accumulating retirement savings understood in such a manner is influenced by financial, historical, psychological, and cultural factors and the construct of the pension system (Perek-Białas, 2017). Financial literacy is also an important factor (Kłopotcka, 2018).

In the empirical terms, the propensity for accumulating retirement savings is being estimated on the grounds of the opinion surveys. The analyses conducted by Adamska-Mieruszezewska and Mosionek-Schewededa (2015) indicate that Poles are characterized by the low propensity for long-term savings and prefer short-term goals or spend all disposable personal income on current needs and requirements. The research conducted by

Olejnik and Białowas (2016, p. 97) indicates that 74% of Poles do not possess supplemental retirement savings. Only 10% of respondents declare to possess such savings. It also implicates that only 14% of Poles aged 25-45 years old accumulate additional resources for the old-age period, and only 36% of the non-saving individuals intend to change their attitude in the future (TNS, 2016). The analysis of households' preferences concerning various forms of ensuring pension security proves that the representatives of households most frequently declare to possess savings in bank accounts (1/3 of the respondents). That form of saving is followed by "investing" in children and taking out insurance. Investing in real assets is also a popular form of saving (Olejnik & Białowas, 2016).

The results of the "Flash Eurobarometr" research indicate, in turn, that in the majority of countries (including Ukraine) young people are more aware of the importance of saving than the representatives of other age groups (Vakhitova & Nikolaeva, 2018). Thus, unlike the common stereotypes, young people are aware of the necessity of retirement saving, but a problem remains – is it the individual responsibility or the responsibility of the state system? This problem will be discussed in the present research.

## 2. RESEARCH PURPOSE

In the face of the new risk related with the decrease in the systemic benefits for the elderly as compared to their expectations, which stems from the level of aspirations and attitude, it is necessary to pose a question concerning the social awareness, particularly the question concerning the attitude of young Polish and Ukrainian people to those issues. Bearing in mind the research problem formulated, the following goals of the research project were adopted:

- exploring the opinions and attitudes of students to the broadly understood concerns of the old-age security and pension security;
- identifying the prospective differences in this field between the Polish and Ukrainian students.

### 3. METHODOLOGY, RESEARCH SAMPLING AND HYPOTHESES

The empirical research was particularly focused on the organization's issues and the financing of the pension system, participation in the pension system, and pension awareness of the younger generation. Apart from the main research goals indicated in the introduction (examining the opinions and attitude of students to the broadly understood issue of pension security, as well as identifying the potential differences in this field between Poland and Ukraine), the research facilitated the achievement of two additional goals: the educational goal and the implementable goal. The educational goal consists of identifying the shortcomings in terms of pension awareness and pension-related knowledge. The implementable goal is to indicate the trends and areas for changes in the existing pension system.

The researched group consisted of students studying in Poland and Ukraine. The research was conducted in the first half of 2018 (Poland) and in the latter half of 2019 (Ukraine) among the non-arbitrary group of economics and administration, law and tourism full-time and part-time students in Cracow (Cracow University of Economics), Tarnów (University of Applied Sciences in Tarnów), and Kyiv (National University of Food Technologies, Kyiv National University of Trade and Economics). The research sample consisted of students (aged 18-25 years old) because, at that age, individuals undergo the most intensive formal and informal education process, which influences the development of opinions and preferences. At this age, the period of professional engagement is likely to begin concurrently, as well as the participation in contributing to the pension system. It is also estimated that few people entering the labor market are fully aware of the indispensability of the pension system.

The research was conducted using the standardized questionnaire, and the PAPI method (*Paper & Pen Personal Interview*), which is the form of the direct interview with a respondent, enabled us to directly explain any queries or doubts to

respondents and ensured that the questionnaires would be returned. The questionnaire form included questions identifying respondents and nine specific research questions utilizing the semantic differential technique. The respondents' task was to indicate to what extent they identify with the statements located on a bipolar scale constructed on the grounds of opposing statements. The five-point Likert scale was used for ascertaining the degree of identification, which allowed us to collect answers concerning the degree of acceptance of a given statement or opinion ranked from the complete acceptance of the first extreme statement to the complete acceptance of the second extreme statement. It is significant that the results presented in this work are based on the part of a broader research and cover only the answers given to a part of the questions included in the questionnaire (Cycoń, Jedynak, & Płonka, 2020).

As a result of the research, 1,614 correctly filled in questionnaires were collected, 1055 questionnaires from the Polish students, and 559 questionnaires from the Ukrainian students. Due to the intentional nature of the research sampling, the respondents represented a comparatively homogeneous group (all aged 18-25). The division of the respondents' group in terms of gender (1,114 women and 500 men) reflected the overall structure of the surveyed populace in which women were dominant (among the economics, administration, law, and tourism students).

Within the framework of the conducted analyses, the authors posed three primary research questions:

- 1) *What model of the pension system is preferred by students in Poland and Ukraine?*
- 2) *What are the Polish and Ukrainian students' opinions on the rules of participation in the pension system?*
- 3) *What is the degree of awareness of students regarding pension security?*

To answer the research questions formulated as such, nine specific research problems were formulated:

- P1: Voluntary or compulsory participation in the pension system.
- P2: Private or public organization of the pension system.
- P3: Individualism or solidarity in the pension system.
- P4: Lower or higher basic national insurance contributions rate for the retirement insurance.
- P5: The pension system different for individual social and vocational groups or uniform for everyone.
- P6: Is the pension system insignificant or crucial in the hierarchy of problems' importance?
- P7: Is the old-age security the responsibility of the state or the family?
- P8: The Pay-As-You-Go or the capital model of financing participation in the pension system.
- P9: Informal or formal education in developing the pension awareness.

Taking into consideration the main goal of this article, each of the indicated research problems has been analyzed from the perspective of comparison of the answers given by the Polish and the Ukrainian respondents. In the formal terms, this approach is exemplified by the verified research hypotheses, which correspond with the respective research problems in international comparison (Table 3).

## 4. RESULTS

The detailed distribution of the answers given by the surveyed Polish and Ukrainian students to the individual questions is presented in Table 4. The table's cells contain the information concerning the fraction of respondents who gave the given answer. Additionally, to concisely summarize the results of the conducted research, an attempt has been made to present the synthesis of the answers given by the Polish and Ukrainian respondents. To this effect, the answers given to the respective questions were assigned numerical values from 1 to 5 where 1 signified the "I fully agree with the first statement" answer, 2 signified the "I rather agree with the first statement" answer, 3 signified a moderate opinion, 4 signified the "I rather agree with the second statement" and 5 signified the "I

**Table 3.** The research hypotheses concerning Polish and Ukrainian students' preferences in terms of the selected aspects of the pension security model

Source: Own research.

Research problem	Research hypothesis	
P1	<i>H1</i>	The preferences of Polish and Ukrainian students concerning the compulsory national insurance contributions are the same
P2	<i>H2</i>	The preferences of Polish and Ukrainian students concerning the organizer of the pension system are the same
P3	<i>H3</i>	The preferences of Polish and Ukrainian students concerning the responsibility for pension security are the same
P4	<i>H4</i>	The preferences of Polish and Ukrainian students concerning the national insurance contribution rate are the same
P5	<i>H5</i>	The preferences of Polish and Ukrainian students concerning the flexibility of the national insurance contributions are the same
P6	<i>H6</i>	The opinions of Polish and Ukrainian students concerning the position of pension security in the hierarchy of importance are the same
P7	<i>H7</i>	The opinions of Polish and Ukrainian students concerning the responsibility for the care for the elderly are the same
P8	<i>H8</i>	The preferences of Polish and Ukrainian students concerning the model of financing participation in the pension system are the same
P9	<i>H9</i>	The preferences of Polish and Ukrainian students concerning the education covering pension awareness are the same



**Table 4.** The Polish and Ukrainian respondents' answers concerning the preferred model of the pension system and the  $p$ -value for the Mann-Whitney U test

Source: Own research.

Problem	Country	I have no opinion on the subject*	I fully agree with the first statement	I rather agree with the first statement	Moderate opinion	I rather agree with the second statement	I fully agree with the second statement	$p$ -value
P1	Ukraine	5.4%	24.0%	20.2%	24.9%	15.9%	9.7%	0.4650
	Poland	1.9%	21.6%	26.3%	19.2%	21.9%	9.1%	
P2	Ukraine	7.5%	6.3%	12.0%	33.6%	19.0%	21.6%	0.1763
	Poland	5.2%	5.7%	15.0%	32.3%	27.1%	14.7%	
P3	Ukraine	8.6%	19.5%	19.1%	22.2%	15.2%	15.4%	0.6575
	Poland	3.2%	19.2%	24.8%	17.1%	24.8%	10.8%	
P4	Ukraine	14.5%	10.6%	13.8%	26.7%	14.1%	20.4%	0.0000
	Poland	10.3%	18.9%	20.7%	35.1%	11.0%	4.1%	
P5	Ukraine	10.2%	31.5%	22.9%	14.8%	9.8%	10.7%	0.0004
	Poland	4.9%	23.5%	28.8%	13.8%	15.1%	13.8%	
P6	Ukraine	11.6%	13.2%	14.7%	27.0%	19.9%	13.6%	0.0000
	Poland	6.1%	3.3%	4.9%	23.8%	37.3%	24.5%	
P7	Ukraine	5.0%	21.1%	15.4%	35.8%	12.5%	10.2%	0.0000
	Poland	2.0%	27.1%	31.8%	24.2%	10.7%	4.3%	
P8	Ukraine	6.4%	17.9%	18.8%	34.7%	13.2%	8.9%	0.0327
	Poland	3.3%	12.3%	26.9%	26.2%	20.0%	11.3%	
P9	Ukraine	8.4%	20.8%	18.1%	33.5%	10.6%	8.8%	0.0005
	Poland	3.6%	13.4%	22.3%	32.2%	19.1%	9.4%	

Note: P1: Voluntary or compulsory participation in the pension system. P2: Private or public organization of the pension system. P3: Individualism or solidarity in the pension system. P4: Lower or higher basic national insurance contribution rate for retirement insurance. P5: The pension system different for individual social and vocational groups or uniform for everyone. P6: Is the pension system insignificant or crucial in the hierarchy of problems' importance? P7: Is the old-age security the responsibility of the state or the family? P8: The Pay-As-You-Go or the capital model of financing participation in the pension system. P9: Informal or formal education in developing pension awareness.

fully agree with the second statement". A possibility to mark the "0" option, "I have no opinion on the subject", also existed to avoid forced and rash answers. The structure of the respondents' answers is presented in Table 4.

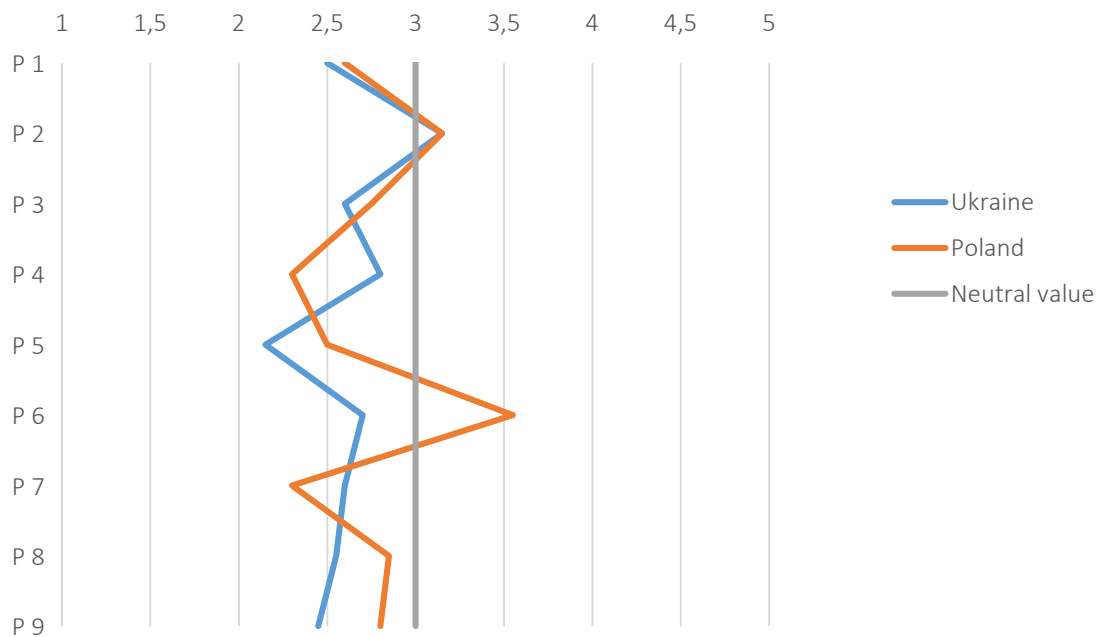
Next, the arithmetic averages for the answers' values were calculated and translated into the chart in the form of the semantic differential (Figure 1).

The resulting figures indicate that the students in both of the researched countries prefer the voluntary model (in terms of the national insurance contributions) but the public system (in terms of the old-age security). Additionally, both of the researched populations of young people rather prefer the individual foresight rather than the pension security model based on solidarity with concurrent diversification of the national insurance contributions for individual vocational groups, major share of family, and the informal education in terms of

the responsibility for the pension security. The Pay-As-You-Go model of the pension system is also preferred. The young people from both countries prefer the lower national insurance contribution rate than the current one, but this tendency is more explicit among young people from Poland than in Ukraine. The major difference between the respondents is displayed in respect of the place of the pension security in the hierarchy of importance.

In the analysis of the distribution of answers between the young people from Poland and Ukraine, particular attention is being drawn to the following issues:

1. Poles prefer the compulsory system slightly more.
2. The answers regarding the preference of the public system of pension security are nearly identical.



Note: P1: Voluntary or compulsory participation in the pension system. P2: Private or public organization of the pension system. P3: Individualism or solidarity in the pension system. P4: Lower or higher basic national insurance contribution rate for retirement insurance. P5: The pension system different for individual social and vocational groups or uniform for everyone. P6: Is the pension system insignificant or crucial in the hierarchy of problems' importance? P7: Is the old-age security the responsibility of the state or the family? P8: The Pay-As-You-Go or the capital model of financing participation in the pension system. P9: Informal or formal education in developing pension awareness.

**Figure 1.** The attitudes of Polish and Ukrainian students towards the selected issues related to the pension system's problem

- The young people from Poland to a larger extent than Ukrainians prefer solidarity in terms of pension security, which, in correlation with the answers given to question 1, implicates greater trust in the public system.
- Poles more frequently than Ukrainians prefer the lower contribution rate. Thus, a conjecture can be drawn that it is related to the awareness of the national insurance contribution – pension benefits relation and the clear disproportions in the rate of the pension benefits in Poland and Ukraine. This issue presents an interesting opportunity for further exploration purposes.
- Young people from Poland more frequently than Ukrainians expressed a preference for the diversification of the national insurance contribution rate for various social and vocational group, which may be the result of the discussions and debates concerning the state pension age, as well as the argumentation of various circles indicating the problem of inadequacy of the uniform pension system concerning the differentiated working conditions of respective social and vocational groups.
- The issue of pension security is significantly more important for young people from Poland than for their peers from Ukraine. This difference is worthy of conducting the expanded research concerning its roots. It may probably be related to the fact that Poles have already secured stable living, which allows them to consider plans, whereas Ukrainians are living in the shadow of uncertainty and are fighting for “here and now”.
- The Polish youth to a greater extent than the Ukrainian youth rely on family rather than the state in terms of old-age security. The reasons behind that attitude may vary and not necessarily be the evidence of stronger familial relations in Poland than in Ukraine (H9

does not confirm this assumption). That attitude may also result from the awareness of the family's inability to finance the old-age in such a very financially unstable country as Ukraine. However, this problem requires further expanded studies.

8. The Polish youth prefer the capital model to a greater extent than Ukrainians. It is probably related to the more expansive, covering more than two decades, experience and thus the knowledge of Poles on the capital part of the pension system whereas the Ukrainian youth, living in the conditions of financial instability, may not trust it. Those are only speculations which require further studies.
9. In turn, the Ukrainian youth show greater preference than the young Poles for the informal education, which, in connection with *H7*, may implicate that they value family values more and only to a smaller extent depend on the formal education, which may be marginalizing the problem in Ukraine. It is also speculation of authors, which requires further studies.

The fact that the young people from Ukraine more frequently than young Poles give the "I have no opinion" answer is symptomatic and may be the evidence of the lesser awareness of the problems concerning the old-age security or the lack of such knowledge. One cannot unambiguously indicate its cause through the conducted research. According to the authors, it may be the evidence of the difference in the level of knowledge related to social security or the culturally conditioned inclination of the Ukrainian students to form judgments more cautiously. This problem may have numerous causes, which are worthy of exploring in the course of further studies.

To verify the salience of the recorded differences in distribution of the answers given by the students from Poland and Ukraine, the Mann-Whitney U test procedure has been performed. One could utilize that form of a test to compare the distribution of answers in the researched populations in place of the weaker standard Chi-Square test; students had given the answers as the ordinal scale of measurement and discarding the

"I have no opinion" answers (those answers were treated as null). The last procedure is related to the previously mentioned clear difference in the number of times. The answer "I have no opinion" was indicated by the students from Poland and Ukraine, as well as with the discussed reasons for such a situation. In the Mann-Whitney U test, the null hypothesis assumes the lack of meaningful differences in the compared distributions of the answers given by students from Poland and Ukraine.

The resulting test figures have been presented as p-value in the last column of Table 4. The results indicate that in the case of hypotheses *H1*, *H2*, and *H3*, there are no grounds for discarding the null hypothesis. Despite the occurrence of certain differences in the distribution of answers in both researched populations, one cannot state that the answers of the Polish students differ from the answers of the Ukrainian students. The case of hypotheses *H4*, *H5*, *H6*, *H7*, *H8*, and *H9* is different. In the case of those hypotheses, the results of the conducted test procedure, with the significance level of  $\alpha = 0.05$ , dictate rejecting the null hypothesis. Thus, about the research problems referring to those hypotheses, the statements of diverse opinions and preferences of Polish and Ukrainian students concerning the pension system are reasoned.

Thus, in summation of this research, it is plausible to state that it is grounded to claim that the Polish youth prefer lower contribution rates. In contrast, the Ukrainian youth prefer the higher rate and that the young people from Poland are more inclined to prefer diversification of the national insurance contribution rate for individual vocational groups than the young Ukrainians. Furthermore, in light of the resulting figures, the statement that the problem of old-age security is more important for young people from Poland than Ukraine is true. Moreover, young Poles more frequently than their Ukrainian peers prefer the traditional model of pension security based on family. The young people from Ukraine have a stronger preference for the Pay-As-You-Go model of financing pension benefits than the young Poles and the stronger preference for the informal model of education concerning pension awareness.

## CONCLUSION

Both the Polish and Ukrainian youth aged 18-25 years old represent a typical Generation Z who “live for the moment” and “only live once” and concurrently are participants of the digital “global village” and subjects to global mega-trends. However, the attitudes of those two populations were shaped under different circumstances.

A significant part of answers, particularly in the case of the young people from Ukraine, represents the lack of opinion concerning the researched issues, which may implicate lack of knowledge, feeling lost in the system of values or the blind approach of the surveyed generation to the problem of the pension systems and the old-age security. In certain matters, moderate opinions constitute a large percentage share of the answers, and that fact may be interpreted inconclusively and may as well indicate the lack of own opinion. The most symptomatic difference in the attitudes is the location of the old-age security in the hierarchy of importance of both communities because the problem of the old-age security is an important or crucial issue for 61.8% of the surveyed Poles and 33.5% of the surveyed Ukrainians. Such a large difference in attitudes raises the question concerning the causes, which may not necessarily be the evidence of the young people from Ukraine possessing lower pension awareness than young Poles but may be explained on the grounds of the behavioral economics (the perspective theory, mental accounting, and the endowment effect). The fact that the lack of trust in the public pension security system is more frequently expressed by the young people from Ukraine than Poland is worthy of attention and may be explained by the greater instability of the public and private finance systems in Ukraine.

Since the old-age security awareness, particularly the pension system’s awareness, is crucial from the perspective of the construction of the pension system and participation in it, a question arises: How to convey this knowledge to develop the social pension awareness and the trust in public institutions? Under the circumstances of the aging populations of Poland and Ukraine and the lack of trust in public systems, developing pension awareness is a crucial task for the state and the formal and informal education system. Currently, the main problem of Ukraine is whether in a weak state and anomie of the axionormative system, an effective pension system may be developed within the society? In Poland, the main problem of the old-age security can be the risk of major reduction of benefits against the expectations. Furthermore, the coronavirus pandemic results may bring forth a question concerning the efficiency of the current pension system, not only in Poland but also across the world.

The presented results of the research are, admittedly, of the pilot nature but are still important for the education and may be applied in further extended research and the possible revision of the current pension systems in Poland and Ukraine.

## AUTHOR CONTRIBUTIONS

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