

RELATIONSHIP OF WEALTH, PENSION PAYMENTS AND HEALTH OF PENSIONERS: THE EXAMPLE OF GEORGIA UNIVERSITIES

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ABSTRACT

Supporting those individuals who have reached retirement age is essential for any country, although academic staff deserves special attention. Professors face significant challenges as they reach retirement age. The article aimed to empirically substantiate the relationship between well-being, pension payments, and pensioners' health using the example of universities in Georgia. Based on the survey results, which 630 university professors attended before retirement and retirement age, the factors influencing the respondents' fear of losing their jobs in retirement we identified. By applying regression models, we evaluated the effectiveness of alternatives for improving the well-being of pensioners by increasing wages and state pensions. The efficacy of these alternatives differs depending on the health status of pensioners. It has been established that the differentiation of pension amounts depending on the length of service can increase the confidence in the well-being of pensioners without increasing the pension provision.

Keywords: Georgia; health; pensioners; pension; welfare; university

DOI: <http://dx.doi.org/10.15549/jeecar.v10i2.1263>

INTRODUCTION

Current Trends in the Pension System Develop in Georgia

Various political and economic transformations accompany pension reforms to form a pension system that meets the modern needs of society. The functioning is aimed at reducing the pressure on the able-bodied population and ensuring the decent well-being of people in old age (Urotadze, 2019). The effectiveness of the pension system is crucial in the public administration system. It contributes to improving the situation of the labor force in the country: employees, potential employees, and retirees (Johnsen & Willén, 2022). This is especially true for Georgia against the background of the aggravation of a steady decline in the population (by 31% from 1990-2022) and demographic aging (according to the United Nations, by 2030, the people of the country aged 60+ will increase by 30% from 2015) (Georgia Population 1950-2023, 2023; United Nations, 2015). The situation is aggravated by the background of active population migration, most of which are young people and people of working age. Over the past five years alone, by the end of 2022, the working-age population of Georgia has decreased by more than 101,000 people aged 15-64. This provoked a reduction in the workforce by 7% and an increase in the number of pensioners by 8%. The situation is projected to worsen significantly by 2030 (Kapitali, 2022).

With a negative forecast and a steady trend of reducing the labor force in Georgia funded pension system was introduced in 2018. The system operates on a partially mandatory principle. Those over 40 will have the choice to join the system or not, and those under 40 will be included in the pension scheme without fail (Tkeshelashvili, 2018). The pension reform did not significantly affect the country because 42% of the able-bodied population aged 40+ found themselves outside the funded pension scheme (Kapitali, 2022).

Retirement and aftermath

Retirement is, on the one hand, the beginning of a well-deserved rest, but on the other hand, some people do not know what to do with themselves or what to do now. They feel unnecessary. And in general, like any life

changes, these cardinal changes are accompanied by significant stress for the elderly. Manifestations of stress are expressed mainly in two aspects: a decrease in the level of well-being and deprivation of the habit of work (Abramowska-Kmon & Łatkowski, 2021). Along with finances, stress-related issues are a concern for retired professors. The London-based Institute of Economic Affairs confirms this problematic issue. According to the study, new retirees are 60% more likely to be diagnosed with at least one physical condition and 40% more likely to have clinical depression. A person's health typically improves in the first year following retirement ("It's good to take a break from work," says Sahlgren), but after two or three years, retirees' mental and physical conditions worsen (Sahlgren, 2013).

After studying the health of 12,000 Americans, experts in Massachusetts (USA) discovered that, on average, people's health deteriorates six years after retirement. They are most afflicted by hypertension, cardiovascular disease, stroke, and arthritis. Furthermore, the depressed background in which they have to live is unbearable. Although the retirement age is different in different countries, the problems of retirement age are equally painful and severe in all countries (Borzykowski, 2013).

By the standards of developed countries, Pensions in Georgia remain woefully low. From 2022, the retirement for citizens under 70 will be 260 lari (83.87 US dollars) (Skhirtladze, 2021). Over the past ten years, the nominal pension in Georgia has increased by 140%, but only by 60% in purchasing power (Geostat, 2023). Therefore, pensioners can provide, at best, only a person's basic needs, which gives rise to problems of a physiological and bodily nature. Especially in the field of education, particularly in the higher education system of Georgia, there is a tendency for academic staff to be unmotivated to retire. They find mechanisms for retaining a job while at retirement age, thereby dodging the barriers to entry into the profession for young professionals. Different countries are enhancing the prestige of teachers and professors by providing various benefits and offers (Szromek & Wolniak, 2020). Unfortunately, in Georgia, similar approaches do not exist. Therefore, many academic staff members remain firmly committed to continuing their scientific activities, fearing the many losses associated

with retirement. Such an attitude towards retired academic staff is incredibly challenging in countries like Georgia. We refer to a highly meager pension that makes it impossible to meet basic needs (Geostat, 2023).

Although the problems of retirement for people and the delay in retirement at retirement age are very relevant regarding the effectiveness of pension provision, empirical research, particularly about academic staff, is minimal. In our article, we attempted to conceptualize and empirically assess the relationship between pensioners' health, their well-being, and pension payments using the example of academic staff in the Georgian higher education system.

LITERATURE REVIEW

Numerous studies on academic personnel are related to challenges in career management. The focuses of these studies were conflict situations in educational institutions, the effect of stress on academic performance, work-life balance, the regulation of the remuneration system, discriminatory decisions, supervisor support concerns, and other topics (Kharadze et al., 2021; Gagnidze & Vesperi, 2021; Ahmady et al., 2021).

Academic staff retirement is mainly affected by the challenges stated above. The Board of Governors of the Federal Reserve System released a household study that found that, as of 2013, over 31% of Americans reported having no retirement savings and no defined benefits (Miller, Madland & Weller, 2015). The academic personnel in Georgia are in a more precarious condition because of an ineffective pension system. As a result, stress and disease areas increase in retirement. A 2022 study by Han (2021) established the complex relationship between retirement and health. However, prior studies by Moen (1996) did not support this connection. Therefore, caring for the academic staff approaching retirement age was not crucial. According to one study, voluntary early retirees from the civil service and regulatory retirees deteriorated physical health (Jokela et al., 2010). Retirement depression is often related to the socialization process. Increased socialization can mitigate the potential negative impact of retirement, and decreased socialization can also aggravate the possible adverse effects of retirement (Shiba et al., 2017). According to Krejcova and Rasticova (2020), organizations should emphasize phased retirement and

provide bridging opportunities, such as less physically demanding employment that retired seniors can fill. According to research, a socially active life gives individuals a sense of belonging and boosts self-esteem.

In contrast, social isolation is as high a risk factor for health as obesity and smoking 15 cigarettes a day (Pascale, 2019). One of the problems of retirement is the filling of leisure time. Reaching retirement age is accompanied by a mix of emotions of excitement and anxiety (Geczy & Friedman, 2016).

The pension reform in Georgia in 2018 focused on increasing financial security in the long term since it takes time to form pension savings through the funded system (Urotadze, 2019). Improving the well-being of pensioners in Georgia in the short and medium term is considered an increase in the state pension and wages as an additional income for working pensioners (Johnsen & Willén, 2022).

The financial security is higher for pensioners who receive wages and pensions. But this situation cannot last long due to the substitution effect in the labor market (Economics, 2021). For pensioners, the substitution effect is primarily due to the deterioration of their health. Therefore, wage increases may be a welfare option for retirees in good health to continue working. In this regard, hypothesis *H1 was put forward: The effectiveness of alternatives for improving the welfare of retired professors (increasing state pensions and salaries) depends on pensioners' health.*

The objective basis for pensioners' well-being is their income level and ability to meet their needs. But since the requirements are individual and change with age, the assessment of the well-being of pensioners has a subjective component (Castro & Bleys, 2023). The well-being of pensioners in this study is assessed not through the amount of income but based on pensioners' assessment of their income level.

A feature of the Georgian pension system is the independence of state pension payments from seniority (Urotadze, 2019). This reduces confidence in the pension system and negatively affects the satisfaction of needs for self-esteem and self-actualization (Rojas, Méndez & Watkins-Fassler, 2023). Excessive pensions for people with short work experience reduce the resource base and the possibility of increasing pensions for pensioners who deserve higher assistance.

This presumably leads to even more unsatisfactory levels of well-being. In this regard, *hypothesis H2 was put forward: Differentiating pension amounts depending on the length of service can increase pensioners' welfare without increasing payments.*

METHODOLOGY

The presented research was conducted in the leading universities of Georgia using an anonymous questionnaire in which 630 professors participated. Among the respondents are persons before retirement age (60-64 years for men and 55-59 years for women) and retirement age (65-74 years for men and 60-73 years for women). The survey was conducted in September-November 2022. The sample size, anonymity, and voluntary participation testify to the representativeness of the survey results. (Taherdoost, 2017).

The questionnaire (Google Form, 2023) consisted of questions assessing the following: the readiness of professors to continue working after retirement age, factors influencing the fear of losing their jobs among professors, the level of well-being, health, the attitude of respondents to pension payments in Georgia, the amount of which does not depend on from work experience. To determine the state of health and well-being, a 7-point Likert scale was used, which assumed assessment in the range of "1" - "7" points. The higher the score, the more the respondent agrees with the survey question. The collected data were analyzed using the SPSS software package. In the analysis process, we used different procedures, including Chi-Square Tests, Multinomial Logistic Regression, and Kruskal-Wallis.

In addition to the results of the survey, we used quantitative data for each respondent-pensioner:

the average monthly amount of pension payments since the beginning of 2022, lari (P);

average monthly salary, lari (S);

the average monthly amount of social fees, lari (SOC);

length of service at the time of the survey, full years (E).

Indicators P , S , and SOC are independent variables for assessing the alternative's effectiveness in improving the welfare of retired professors (testing the $H1$ hypothesis). The

dependent variable is the score of the well-being of the retired respondent. For the evaluation, we used the linear regression analysis method in the EVIEWS 10 program. Since the dependent and independent variables have different measurement units, the indicators' values standardized according to the formula (1) were used to build the models (Anysz, Zbiciak & Ibadov, 2016). We used linear regression analysis due to the customary distribution law of standardized indicator values (Normality Test > 0.05).

$$I_{ST} = \frac{I - I_{min}}{I_{max} - I_{min}}, \quad (1)$$

where I_{ST} – standardized indicator value;

I – the actual value of the indicator;

I_{min} and I_{max} – the minimum and maximum values of the indicator, respectively, for all respondents.

To test the $H2$ hypothesis, the P/E indicator (independent variable) was calculated as the ratio of the average monthly pension payments to each respondent-pensioner's service length. The dependent variable, as in the case of testing the $H1$ hypothesis, is a scored assessment of the well-being of the retired respondent. Based on the standardized values using EVIEWS 10 program, a non-linear regression model was built, the choice of which is due to higher indicators of its statistical significance: empirical values of F and t -test, Ramsey Test.

RESULTS

Based on the analysis of the results, we can conclude that 47.3% of respondents would like to continue working in an educational institution with a full workload, which can be related to the fact that retirement age and quitting a job are frequently associated with a decrease in the quality of socialization. A person who has spent many years working in an educational institution where they interact with numerous people regularly will not want to do this. It should be mentioned that 25.7% of respondents would be willing to stop working if they received a decent pension. The pension is extremely meager in a developing country like Georgia. Because of this, living life to the fullest might be challenging when your retirement is significantly less than your income. As a result, we can assume that remuneration is the primary motivator for

continuing to work at retirement age. After retirement, only 2.1% of respondents would prefer not to work in an educational institution, while 24.9% would like to work part-time.

Do respondents fear losing their jobs when they reach retirement age? A sizable portion of the respondents, 43.2%, responded favorably to the previous question. In Georgia, the fear of losing one's job is widespread and affects many more individuals than just retirees. This fear is correlated with one's financial situation. 34.3% of the respondents expressed no concern about losing their jobs. 22.5% do not have an answer to the question, which may be related to the fact that they did not think about the issue due to their age or did not want to answer. Because the economic situation in Georgia is unfavorable, 57% of the respondents state that they do not have/will not have adequate savings to ensure their life at retirement age. Naturally, the respondents won't be able to continue living a whole life with the number of pensions currently available in Georgia. Only 19% of the respondents stated that they have or will have savings for retirement, while 24% did not have an answer to this question.

It is not a new fact that the care and livelihood of Georgia's retirement-age individuals are linked to their family members' financial position. We thus asked the respondents how much they anticipate receiving financial assistance from their children, family, or other relatives. On the previous question, 30.3% responded negatively. A positive answer was given by 44.9% of the respondents. And 24.8% refrained from answering.

During the research process, we were interested in the factors associated with the fear of retirement. It is crucial to meet physiological and safety requirements in satisfying an individual's needs. When asked whether the fear of retirement is related to the expenditure on high-quality food, 31.8% of respondents fully agreed, and 19.3% agreed. They fear that once they retire, they won't be able to buy healthy food. 21.9% of respondents have a neutral answer. Additionally, 27% of the respondents do not share the mentioned opinion.

The following issue is related to the state of health. 47.8% of respondents fully agree and share the opinion that they will not be able to maintain proper health conditions after retirement since the income of the personnel

employed by the educational institution will be drastically reduced. 21.3% have a neutral position, while 30.9% do not fully share and do not share this opinion.

Along with work, an individual must have leisure time and financial resources to unwind and relax. We questioned whether respondents' fear of retirement was related to the fact that they would no longer be able to travel, as it is an essential component of leisure. 45.6% of respondents fully agree and share that their dread of retirement is, to some extent, related to the fact that they would be unable to travel in the future. They will be less active than they are currently due to financial insecurity. Such drastic changes would severely impact their psychological state, causing stress, which may trigger many diseases. A neutral response was given to the previous question by 19.2%; 13.5% disagreed, while 21.7% disagreed entirely.

Many assist their loved ones or family members who are financially struggling. Often the breadwinner is the person who will lose their income after retirement. Accordingly, 40.3% of the respondents fully agree that they cannot help their relatives after retirement. This opinion is shared by 26.1%. A neutral position was expressed by 17.9% of the respondents, while 15.7% were opposed to the mentioned statement. And it is related to additional income outside of work.

One of the primary causes of anxiety about losing a job is the change in a socially engaged lifestyle. We, therefore, asked the respondents if they would find it psychologically challenging to quit the workplace. It's unsurprising that 53.7% of respondents agree and share this viewpoint. Only 11.4% of respondents disagree entirely. The results show that the organization should make every effort to make retirement painless.

Table 1 presents the results of the chi-square test, which illustrates that factors influence the fear of losing a job due to retirement:

- 1) savings to ensure life in retirement (chi-square = 59.276);
- 2) receiving financial support from your children or other relatives after you reach retirement age (Chi-square = 25.814);
- 3) availability of programs at the university that employ pensioners (Chi-square = 15.124);

- 4) help of the university in choosing an activity depending on the inclinations and hobbies of pensioners (Chi-square = 15.373) There is a maximum statistical relationship between the fear of losing a job in retirement and these factors (P-value <0.01).

Table 1: Pearson Chi-Square Tests to identify factors influencing fear of losing a job in retirement among university professors in Georgia

Questionnaire question	Statistical Significance Indicators	
	Do you have/will you have adequate savings to ensure your life at retirement?	Chi-square
	Sig.	0.000
Do you anticipate receiving financial support from your children or other relatives after you reach retirement age?	Chi-square	25.814
	Sig.	0.000
Has the organization developed programs that ensure the employment of retirees?	Chi-square	15.124
	Sig.	0.001
Does the organization assist you in making activity choices depending on your inclinations and hobbies?	Chi-square	15.373
	Sig.	0.000
<i>Grouping Variable: Are you afraid of losing your job in retirement?</i>		

Source: authors' finding, 2022.

Savings at retirement age influences retirement fears related to the impossibility of purchasing high-quality food, maintaining health conditions, traveling, looking after the respondent's relatives, and experiencing

psychological stress from being away from the workplace. We used the Kruskal-Wallis and chi-square test to study the statistical significance of these factors influencing fear of losing a job (Table 2).

Table 2: Indicators of the statistical significance of the influence of pensioners' savings and people before retirement age on the ability to meet their physiological and other needs

Statistical significance	Questionnaire question				
	Fear of retirement - not being able to afford high-quality food	Fear of retirement - I will not be able to maintain my health conditions	Fear of retirement - I won't be able to travel	Fear of retirement - I will not be able to help my relatives	Fear of retirement - I will find it difficult psychologically to leave the work environment
Chi-Square	55.724	62.004	32.052	29.015	31.496
Df	2	2	2	2	2
Asymp. Sig.	0.000	0.000	0.000	0.000	0.000
<i>Grouping Variable: Do you have/will you have adequate savings to ensure your life at retirement?</i>					

Source: authors' finding, 2022

For all indicators (Table 2), the P-value <0.01 indicates a statistically significant effect of the savings of pensioners and people before

retirement age on the ability to meet their physiological and other needs. The most crucial influence is on the fear related to maintaining

health conditions (Chi-square coefficient equals 62.004) and the anxiety related to purchasing high-quality food (Chi-square coefficient=55.724). The statistical significance of differences in the manifestation of pension fears depending on savings was also confirmed by the Kruskal-Wallis test (test value 21.852, P-value 0.00).

For the regression analysis of categorical variables in the article, we employed the Multinomial Logistic Regression procedure. With its help, we studied the influence of the following

independent variables on the dependent variable «Are you afraid of losing your job in retirement?» (Table 3):

«Do you have any additional income that you receive from sources other than educational institutions?» (Q15);

«Have you thought about the sources of filling the time freed at retirement age?» (Q16);

«Does the organization offer retired employees psychological training to help them adjust to their new environment?» (Q17).

Table 3: The model for assessing the factors influencing the fear of losing a job among university professors in Georgia

<i>Effect</i>	<i>Model Fitting Criteria</i>		<i>Likelihood Ratio Tests</i>		
	<i>-2 Log Likelihood of Reduced Model</i>	<i>Chi-Square</i>	<i>Df</i>	<i>Sig.</i>	
Intercept	100.104	0.053	2	0.974	
Q15	133.521	33.469	2	0.000	
Q16	105.945	5.893	2	0.053	
Q17	102.796	2.744	2	0.254	

Source: authors' finding, 2022

The outcomes of the LRT-statistical test (Table 3) show that the Q16 and Q17 variables were dropped out of the regression (P-value >0.05). Out of the three factors given, fear of losing one's job was influenced by the Q15 variable (Do you have any additional income that you receive from sources other than educational institutions?). The P-value model is less than 0.01, which means that this model fits the data. The survey results showed that the main fear of losing their jobs among university professors in Georgia is the low level of well-being of pensioners. To assess the effectiveness of

alternatives to improve the welfare of pensioners, regression models were built (Table 4).

The regression model constructed for the entire sample of retired respondents did not testify to a statistically significant effect of wage increases on the welfare level of pensioners, which contradicts studies (Johnsen & Willén, 2022). At the same time, such an impact was identified when dividing the sample of respondents into sub-samples for health reasons using the Chow test (Table 4).

Table 4: Linear Regression Models for Estimating the Impact of Salary and Pension Increases on the Welfare of Retired Professors

Groups of pensioners, depending on the state of health	Model for assessing the impact of wage increases on the well-being of pensioners	Model adequacy indicators	
		F-criterion	Ramsey Test
Good health (6-7)*	$W = 0.83 \times S + 0.21 \times P + 0.05$ (3.15)*** (2.98)***	25.27	0.36
Satisfactory health (4-6)	$W = 0.12 \times S + 0.48 \times P + 0.32$ (2.75)** (3.05)***	19.54	0.57

* The range of pensioners' assessments of their health status on a 7-point Likert scale;

W– is the standardized value of the respondent's well-being indicator; *S* is the standardized value of the average monthly salary of the respondent since the beginning of 2022; *P*– is the standardized, average monthly value of the amount of pension that the respondent receives. The empirical value

of the t -test for independent variables was indicated in brackets, ** - the statistical significance of variables at P -value=0.05, *** - the statistical significance of variables at P -value=0.01

Source: authors' finding, 2022

Among the working pensioners who formed the sample, there were no pensioners with a health status of 1-3 points.

The statistical significance of the obtained results is evidenced by the empirical values of F and t -test, for P -value <0.01, Ramsey Test > 0.05.

Regarding whether the differentiation of the amounts of the state pension depending on the length of service can improve well-being, 69% of respondents gave a positive answer, 28% gave a negative response, and 3% could not decide. Respondents who were undecided and gave a negative answer are pensioners and persons before retirement age with short work experience. To statistically confirm the results obtained and confirm the H2 hypothesis, regression models were built: model (2) - for the entire sample of retired respondents, (3) - for the selection of male pensioners with a work experience of 40-45 years, (4) - for the sample of female pensioners with 35-40 years of experience.

$$W = -1.11 \times (P/E)^2 + 1.58 \times (P/E) - 0.13 \quad (-3.18)^{***} \quad (-3.34)^{***} \quad (2)$$

$$W = 1.08 \times (P/E) - 0.07 \quad (4.46)^{***} \quad (3)$$

$$W = 1.02 \times (P/E) - 0.03 \quad (3.55)^{***} \quad (4)$$

where W - is a standardized value of the respondent's well-being indicator;

P/E - is the standardized value of the average monthly pension amount ratio from the beginning of 2022 to the length of service;

The empirical value of the t -test for independent variables are indicated in brackets;

*** - the statistical significance of variables at P -value=0.01

The number of social benefits does not have a statistically significant impact on the well-being of pensioners (P -value > 0.1). This is due to the

low percentage of respondents (3.6%) receiving social assistance.

The empirical values of the F -test for the constructed models (2)-(4) were 15.11-33.63, the t -test for independent variables |3.18|-|4.46|, Ramsey Test > 0.05. These values indicate the statistical significance of the results obtained.

DISCUSSION AND CONCLUSION

An increase in wages leads to an increase in the well-being of pensioners. The better the state of health, the higher the elasticity of welfare from wages: 3.05% for respondents with good health and 1.04% for respondents with fair health. The income of these pensioners is formed from pension payments, savings, social assistance, and assistance from loved ones.

The results obtained indicate that for pensioners, there is a fair substitution effect in the labor market. Still, it is not due to the desire to have free time for sports, cultural development, or travel, as in the classical sense (Economics, 2021), but the state of health does not allow continuing work. The results obtained are due to the low well-being of pensioners in Georgia.

With the deterioration of health in pensioners, there are fewer opportunities for additional earnings. The role of pension payments in ensuring the well-being of pensioners in such conditions increases: elasticity increases from 1.28% for pensioners with good health to 2.14% for pensioners with poor health. The results supported the H1 hypothesis.

If we consider pensioners with the same length of service (models 3-4), the higher the ratio of pensions to the size of service, the higher the level of assistance. Under such conditions, the growth in the percentage of pensions to the length of service contributes to the development of the well-being of pensioners. But based on model (2), this dependence is observed up to a certain point, after which an increase in the ratio of pensions to the length of service leads to a decrease in well-being. Under such conditions, high values of the percentage of pensions to the size of service are not always indicators of income growth since they can be due to the short span of service. In addition, higher values of the

hand, which are achieved due to a faster work experience, hurt the subjective assessment of the well-being of "underestimated" pensioners. The findings confirmed the H2 hypothesis.

The results obtained are guidelines for the state in reforming the pension system in the short and medium term. Improving the well-being of pensioners is possible through financial payments (increasing wages, pensions), which most researchers considered, but without considering the state of health of pensioners (Urotadze, 2019; Johnsen & Willén, 2022; Castro & Bleys, 2023). Health status affects these alternatives' effectiveness in improving pensioners' well-being. Improving the well-being of pensioners is also possible by redistributing pension payments depending on the length of service, which was not considered in previous studies (Urotadze, 2019; Johnsen & Willén, 2022; Castro & Bleys, 2023).

The implementation of the obtained results is limited by academic staff and within a specific country - Georgia. In addition, when evaluating the effectiveness of improving the welfare of working pensioners by raising wages, the labor market was considered from the supply side. The demand of universities for retired professors was not considered, considering the decrease in their labor productivity and the loss of competitive advantages compared to younger colleagues. These issues require fundamental and comprehensive study and will form the priority of our future research.

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