The objective of the article consists in studying the problems in the domestic pension system within the context of contemporary demographic imbalances. Proceeding from the correlation of the economically active population and the population having lost the earning capacity (as the basis for its financial balance), it is indicated that the pension insurance mechanism is susceptible to financial instability risks due to a growing trend towards population ageing. The study focuses on the availability of economic and personal prerequisites to extension of the limits of economic activity of people throughout their lifetime and during the "third age" period, as well as formulation of a demographically stable model of pension insurance. Analysis of contemporary studies shows that transformation of the final (production) output from the material to the information and knowledge form has occurred within the context of domination of the innovative economic development vector and establishment of a "knowledge-driven economy," and its generation requires formation of a corresponding specialist training level. Collection, compilation and grouping of results of a survey conducted for the purposes of the study among 3.0 thousand Donetsk oblast residents representing varying age categories, education levels and occupations, have demonstrated that the primary incentive for continuation of labor activity to the vast majority of respondents is insufficiency of means to provide for vital needs. Problems and negative trends in pension insurance functioning found in the plane of overlying systemic imbalances in the demographic, labor, and pension spheres are singled out by analyzing legal framework provisions and scientific research. As a result of theoretical generalization and on the basis of the abstract and logical method, a conclusion is made concerning practicality of forming a demographically stable framework of pension system functioning by realizing professional abilities of people considering the present-day development requirements. Propositions are developed aimed at improvement of the modern pension system framework by realizing economic activity of "third age" people. Implementation of the listed propositions will allow ensuring improvement in the demographic and financial stability of the pension system and senior citizens' social security level within the context of innovative economic development. Prospects for future studies in this area consist in the development of an integral pension system framework resistant to imbalances and risks of an unstable social environment.

Keywords: pension system, population ageing, financial imbalance, economic activity, "third age", knowledge-driven economy, problems, development


Rad Nataliya S. – Candidate of Sciences (Economics), Deputy Head of the Department, General Directorate of Pension Fund of Ukraine in Donetsk region (vul. Universytetska, 91, 83073, Ukraine)
Email: Ntosa2@yandex.ru

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Rad N. S. Концептуалізація демографічно устойчивої моделі пенсійної системи та економічна активність людей «третього віку»: контекст взаємодії

Метою статті є дослідження проблем вітчизняної пенсійної системи в умовах сучасних демографічних дисбалансів. Виходячи зі співвідношення економіки активного населення та населення, що втратило фінансову незалежність (як основу її фінансової стабільності), зазначено, що механізм пенсійного страхування є чутливим до ризику фінансової нестабільності з причини зростаючої тривалості старіння населення. Дослідження сфокусовано на наявності економічних та особистих ресурсів для покриття потреб пенсійних рівень життя та формування демографічно стабільної моделі пенсійного страхування. Аналіз сучасних досліджень показав, що у умовах домінування інноваційного вектора економічного розвитку становлення "економіки знань" відбулася трансформація кінцевого продукту (продукції) в інформаційно-знаннявій формі, для генерування якої необхідно формування відповідного рівня спеціалістів. Сбор, об’єднання і обробка результатів проведених в рамках дослідження опитувань 3,0 тисяч жителів Донецької області різних вікових категорій, рівень освітньої та професійної належністі показав, що основним обмежуючим фактором для досягнення діяльності переважною частиною респонден-тів вважається недостатність коштів для забезпечення життєздатності. Проте аналіз положень нормативної бази та наукових досліджень виявлені проблеми та негативні тенденції функціонуванні пенсійного страхування, які знаходяться
The successful functioning of the pension system depends on many factors. The main include demographic component. It is considered that the basis of the financial balance of the pension system is the optimal ratio of economically active (working) and disabled people (pensioners). After all, these two categories of people form the income and expenses of any pension system. However, one of the main distinguishing features of the modern development of society is the continuous aging process. Under such circumstances, the pension system is vulnerable to demographic imbalances, and should take into account these risks. At first glance, the problem of an aging population in the pension system can be solved by extending the retirement age and the period of insurance. Many states do that. Ukraine in 2011, took a similar decision. [1] However, this path is fraught with many negative consequences. The first negative impact affects the labor market. For young professionals the extension of the period of work for older workers leads to a significant narrowing of opportunities to find work (slows down the release of jobs). At the same time, the risks of losing their jobs due to the reduction and loss of physical (corresponding to the requirements of the time) and professional abilities in old age also tends to strengthen. We emphasize that the elderly are more likely to face problems of working categories of discrimination at work (reduction, demotion, other). From an economic point of view, the use of irrelevant (physically worn out and no longer in compliance with the intellectual needs) elderly workforce also significantly affects the efficiency of the economic development of the state. Around the problem of finding an optimal demographically stable model of the pension system in an aging population there’s an on-going debate.

The study of various problems in the functioning of the pension system, many scholars and practitioners dedicated their work, including Ossetskii V. L., Tatomir I. L., Miklyaeva A. V., Yuriy S. I., Kizima T. O., Roik V. D., Safonova V. E., Yakunin V. I. and many others. However, existing approaches to the formation of a demographically sustainable pension system in transforming the socio-economic environment are not examined fully. In particular, the possibility of building post economic – the active period of a person’s life in the context of improving the efficiency of the pension system requires further study, which confirms the relevance of the study.

Thus, the aim of the article is to analyze the specific problems in the functioning of modern pension system caused by the existing demographic imbalances, providing proposals to improve the efficiency of pension insurance by expanding the range of cost – the active period of the people of the «old age» in order to form a more demographically sustainable model of national pension system.

Hypothesis of the study is the assertion of the potential for improving the efficiency of pension insurance by expanding economically – the active period of life of people of the «old age» in order to enhance the sustainability of the modern model of the pension system to demographic imbalances.

The methodology of the study. In order to verify the hypotheses of the study the general scientific methods were applied: generalization, grouping analysis (the current pension legislation, scientific views on the demographic problems of pension insurance and ways to optimize it), as well as a questionnaire on various aspects of economic expansion – within the active period. The abstract and logical method was used to draw conclusions.

The main material of the article with the justification of the obtained scientific results. Transformation processes of socio-economic sectors of the state gives the characteristic features of the development of the national pension system. For example, the search for effective ways to improve the social protection of the elderly is happening in the face of rapid aging of the population. At the same time the significant changes in the structure of population ratios determine application of increasingly diverse forms of pension insurance. The introduction (2004) of its three-tier model consisting of solidarity and funded systems of compulsory state pension insurance system...
and private pension provision [2; 3] can be regarded as the ability to create a modern pension system which is more resilient to risks. However, the practice of functioning of the national pension system shows that the pre-reform issues (very low pension benefits, the financial imbalance in the pension system, etc.) continue to occur. Let’s note that such an attempt is considered to be an effective way to remedy the consequences of demographic imbalances by increasing the retirement age has not brought positive results [1; 4, p. 92]. The balance of the budget of the Pension Fund of Ukraine has not been achieved; the conditions to increase pension payments were not established as well. Instead, the tension in the labor market increased as a result of reduction of jobs because of senior citizens continuing to work. Thus, the complex of conceptualization problems of the pension system in the face of increasing demographic risk continues to require permission.

It is noteworthy that the efficiency of the three-tier pension system is largely determined not only by participation but also the ability to understand the effect of the financial mechanism of different types of pension insurance in the long run for everyone involved.

Therefore, on the one hand, the need to justify all the components of pension supply is gaining its urgency and determination of its optimal proportions as a national redistributive mechanism [5, p. 53]. On the other hand, the most important task in the context of what has been said is the development of effective behavioral strategies and patterns of life in the country’s population [3, p. 92]. It should be emphasized that the comprehensive nature of the pension system and the diversity of its members directly contribute to the formation within the pension relationship varied interests. We believe that in such circumstances, the viability of the concept of the pension system depends on its ability to reach and satisfy all existing interests. Among researchers there is no unanimous conviction of the person’s expressed need to remain economically active throughout life and in old age. However, statistics show that a significant part of Ukrainian pensioners continue to engage in economic activity. At the beginning of 2013 of 13,035.8 thousand pensioners 1865.1 thousand or 14.3% were working [6, p. 42, 66]. Noteworthy are the reasons for continued employment. According to a survey conducted by the author among 3.0 thousand inhabitants of Donetsk oblast of different age and occupation, 51.2% of respondents need to continue their economic activities (labor relations) because of insufficient income to support their everyday activities, 25.4% - the need to meet their usual necessities of life, 12.5% - need to be integrated into a specific social environment. Only 10.9% of respondents expressed a desire to acquire new knowledge to enhance competitiveness in the labor market and the expansion of professional range for the purpose of career advancement. Thus, among a growing number of people there is a need to maintain their professional skills up to date for various reasons. This position is reflected in the widely spread concept of learning throughout life. This approach allows a person to make more efficient use and to extend the maximum period of economic activity for a more financially stable life strategy of social protection (high wages and pensions). Main features of the age periods of pension rights within relationships are shown in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Participants of relations</th>
<th>Main possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior citizen</td>
<td>Meeting own needs of material support and socialization of the individual in society, as well as improving the quality of life</td>
</tr>
<tr>
<td>People of economically active age</td>
<td>Ability to maintain the economic activity up to date and planning prospects for financial level of material security</td>
</tr>
<tr>
<td>People younger than economically active age</td>
<td>The opportunity to observe more active forms of economic behavior of older people and use it in your own life</td>
</tr>
<tr>
<td>Employer</td>
<td>Having the opportunity to employ more professional actualized workers</td>
</tr>
<tr>
<td>State</td>
<td>Increase of material support of workers and their participation in economic activities and in the formation of the GDP</td>
</tr>
<tr>
<td>Society</td>
<td>More effective participation of elderly people in contemporary social life stabilization of intergenerational relations</td>
</tr>
</tbody>
</table>

Sources: author’s research

Note that the possibility of continuing the economically active period of a person’s life is caused by the requirements of modern social development. At the same time, the declared principles of the Constitution of Ukraine, the welfare state provide for the creation of conditions for the full realization of the individual [7; 8, p. 319]. And it was noticed that the other way to express and implement their knowledge and skills, except through labor, the nature of human society does not incorporate [9, p. 62]. In the context of the above said, work is seen not only as a means to create a certain level of wealth, but also for creativity and abilities. We believe that this is the essence of effective and valuable work. However, in today’s society the stereotypes about the ability of highly productive labor only at a young age were developed and maintained, reducing professional and personal characteristics of the elderly. The author Miklyaieva A. V. emphasized that the age stereotypes exist in the space of human interaction by giving each age stage some specific characteristics [10, p. 67]. Matveiev M. Ya. underlined that each stage of human age is characterized by a special state, due to its natural and acquired properties. These qualities define the features of people’s participation in educational, industrial, scientific and cultural life [11, p. 51-55]. A post-production
stage is characterized by the author as a period of knowledge or intellectual rent. Thereby implying that there are promising opportunities of use of this experience in the activities.

It is believed that in fact the decision to continue or to determine the moment of ending of the economic activity is taken independently by the person [5, p. 52]. One of the main reasons that lead to this choice is the loss of ability to work. It should be emphasized that the presence of industries with hazardous and difficult working conditions (energy, coal, metallurgy, mechanical engineering, etc.) in the real sector of the economy greatly accelerates the loss of physical ability to work and early retirement age for this category of workers. And the influence of unfavorable factors on the livelihoods of people in old age, according to Roik V. D., leads to further marginalization of the social group and of social dependency, financially overburdening the society [5, p. 49]. In her turn, Semyenova V. V. draws attention to the significant reduction in social capital among older people due to the loss of the predominant part of life opportunities and choices [12, p. 236]. We believe that in the absence of changes in the functioning of the existing order of social and labor sphere (with respect to the elderly) and the continued growth of human longevity, negative processes of social inferiority will only grow and take various forms.

It’s appropriate to note that the negative demographic trend of population aging apart from increasing the load on the pension system also means the restriction of the labor market that will have an effect later on increasing labor shortages. In this context, the researcher can agree with Roik V. D., who deems it necessary to replace the old type of economy with labor-saving formats of use of the country’s labor potential [5, p. 52]. It is important to consider that in deciding whether to extend the period and the range of employment of a person first of all it has to be the person’s deliberate desire that is presupposed. However, in the course of a survey of residents of Donetsk region on the question of the attitude to the prospect of continued employment 49% of respondents said they would not like that, and only 14.3% were positive about it. The rest allow this possibility only under certain conditions (27.1%) and were not able to determine the attitude to the question (9.4%). Importantly, expressing a desire to remain economically active respondents put a different meaning to the character of the potential employment opportunities. Thus, 52.1% of those polled expressed a preference for not challenging (physical or without physical activity) work, as well as the field of vocational level (25.2%). The highest qualification level was selected only by 22.7% of respondents. However, the focus on the innovative development of the country requires a corresponding transformation of all segments of professional training. A harmonization of targeting these two components, in our opinion, minimizes the possibility of terminating the process of professional improvement in any of its stages. However, the researchers strongly emphasize the need to stimulate it. It is noted that in accordance with the concept of continuous learning throughout life it requires the involvement of all elements of enabling a person needs to learn and being self-productive [5, p. 52]. Possibility of updating the professional level of the person contributes, in particular, the concept of dynamic capabilities, that in Lavrenenko V. V. opinion, in fact, reveals a new mechanism of competitive advantage [13, p. 72]. The author connects them with such knowledge as strategic assets, the quality of which is subordinate to the organizational level of learning. Conceptually, training elderly or the «old age» implies an exceptionally integrated approach and «modernization» not only of professional knowledge, but also of contemporary life ideology, without which the full integration into the modern social life is impossible. Structural and logical scheme of conceptual provisions of education for the «old age» people in the context of the functioning of the national pension system is shown in Fig. 1.

Thus, the updating of the economic activity of the person in the «old age» can be considered the final stage of the educational process throughout life. The comprehensive nature of the concept suggests the presence of diverse effects of its impact on the labor sphere and socio-economic development of the state. And a man, who updated their knowledge and skills up to the level of modern professional requirements, can be considered an actualized economically active person. In the context of the development of the concept of education for people of the «old age» an actualized economically active person, in our opinion, can be represented as a participant in economic activity that has a set of advanced professional skills and expertise, skills and experience at a competitive level. This fact is believed to be important in an increasingly competitive labor market for more skilled jobs with high pay, appropriate social benefits and pension prospects. It was noted that such an age confrontation or conflict is also accompanied by increased formalization of boundaries in different age groups in the labor market [12, p. 237]. At the same time, in most developed countries, according to Soboleva I. V. there is a transition to a new type of employment which implies a different distribution of roles and factors of production in other forms of labor relations. Its main features, as the author points out, are: complexity and enrichment of all categories of work, increasing the role of creative work; increase the flexibility of labor relations, the spread of new and non-traditional forms of employment arrangements [14, p. 117]. At the same time, illustrating the main features of the content of the post-industrial society in the context of an integrated system of categories of the «new economy,» Safonova V. Ye. notes the rapid structural changes in the direction of science as a direct productive force and service sectors, as well as the establishment of scientific work as a creative activity [15, p. 51]. The researchers also noted that the changes that we can observe with the advent of information technology, give jolt to the development of a new motivational tool, the use of which will make it possible to provide a high level of rotation of work [16, p. 51]. It is emphasized that the focus is primarily on the increase in demand for workers, which can be easily adapted to the technologically advanced working conditions.

Note that the controversy surrounding the problem-solving skills in age professional update generates a variety of approaches, based on the priorities of innovation and economic development.

It is assumed that in the system – model understanding system of education in the post-Soviet space has not been determined yet. Researchers Yakunin V. M. and Sulakshin S. S. emphasized that the Soviet school at the time was positioned as a polytechnic. At the moment, this imperative has lost its meaning. In their opinion, the most appropriate for achieving the objectives of economic development and increasing the innovative component is the breeding model (the goal is in selection during the preparation of highly qualified personnel)
and educational (the goal is the formation of work ethic) [17, p. 59]. At the same time, referring to the scientific manpower and noting the high average age of researchers, the authors suggest an age restriction to carry on scientific research [17, p. 61-62], which in our opinion is quite polemical. Also there’s the point of view that the resumption of disability associated with professional reprofiling in the context of post-industrial (information) society needs and the need of self-realization [3, p. 51]. It is important to bear in mind that due to the flexibility of professional reorientation, greater freedom of the knowledge worker who does not require attachment to the means of production. This is indicated by Danilenko L. N., stressing that such employees already own the means of production, that is, the knowledge that they hold [9, p. 67]. Consequence of this is the high mobility of such workers in the conditions of not stable economic environment.

However, the survey results show a variety of priorities for the use of updated professional knowledge of those «old age». The majority of respondents suggested the use of new knowledge in the work performed at a better level (35.5%). Prospects of continuation of economic activity on another workplace were regarded by 13.5% in business – 17.8%, in the creative or scientific activities – 5.9%. In addition, the prospect of using the knowledge gained was associated also with the personal lives of the respondents (17.8%), in order to maintain social bonds – 5.9%, in volunteer or community work – 3.6%.

Thus, the updating of professional competence throughout their lives, and especially in the «old age» suggests a harmo-
nious incorporation of the system of social relations. As a part of the pension system functioning this concept is able to revive the sphere of economic activity and to give a positive impulse to the development of pension insurance. The main provisions of the conceptual model of the pension system in the context of the educational mainstreaming of economic activity of “old age” people in the schematic are shown in Fig. 2.

Of particular importance in the context of conceptualizing demographically sustainable pension system is a factor of unemployment, the meaning of the concept which is gradually evolving. It is noted that in the context of social risks, unemployment cannot be considered only as an individual person’s risk as a result of inaction or unwillingness to work [18, p. 78]. In particular, one of the most common manifestations of unemployment can be regarded as the result of the imbalance between supply and demand for certain categories of occupations in the labor market. In this case, the problem of no demand occurs even among highly qualified specialists. In the concept of learning throughout life such a negative situation can be corrected by modifying the existing, obtaining new or additional professions conversion. Note that getting a new education extends the preparatory period before the start of work and shortens the period of its economic activity. In today’s pension insurance system the restriction of the insurance period (during full-time forms of education a person is not an insured person) causes a corresponding impact on the formation of their pension assets. Thus, this negative factor should be resolved by harmonizing vectors of economic development and education.

**Fig. 2. Conceptual model of the pension system in terms of updating the economic activity of the people of the «old age»**

Sources: Development of the author
A feature of the current pension system, which has a direct potential impact on the person's educational process (life-long), is the presence of capitalization tools through a funded system of compulsory state pension insurance system and private pension provision. The successful operation of accumulative pension insurance forms requires active participation of insured persons at all stages of the formation of pension savings and investment income. Participants of pension relations are expected to have a necessary level of financial knowledge. Direct control of the active participants of accumulative forms of pension insurance is considered as one of the factors to strengthen the quality characteristics of the pension relationship. However, the researchers noted a low demand for financial knowledge among bulk of the population and misunderstanding their practical role [19, p. 23]. This author sees as the main reason for the existing level of financial illiteracy. They conclude on the need to overcome the rapid frankly ignorant attitude of the majority of Ukrainians to their money and to unexpected financial future, as well as the formation of their philosophy of self-reliance, so that everyone can achieve financial independence and preserve it throughout life [19, p. 23]. In the context of the educational concept the problem requires the development and consolidation on the methodological and normative level.

We emphasize that the globalization trend in the development and use of knowledge is becoming increasingly dominant factor in the formation of effective economic environment and labor relations. Noted that such a universal approach to the «knowledge for development» should also help to change (adjust) the national standards of work [20, p. 139]. After all, the knowledge society places new demands on labor productivity due to changes in the final product delivered to the market. The author pointed out that the final product is often not material, but has a «knowledge — information» form. It is believed that such a character of work is able to make the domestic economy truly modern and efficient. However, the survey conducted by the author showed that the respondents considered non-productive sectors of activity (60.7%) the most promising for the continuation of the professional activity, of which the public service was 9.0%, the social protection of the population — 5.9%, education — 7.3 % art — 6.8%, services — 7.7%, the scope of health care — 5.4%, other — 18.6%. Only 33.6% of those polled expressed a preference for the industrial sector: manufacturing (10.2%), business (18.9%), agriculture (4.5%) and science (5.7%).

The title indicates the absence of attractive incentives for professionals in the real sector of the national economy, where they could see the use of their abilities. This requires settlement in the concept of high-quality professionals in the process of becoming «knowledge economy». Effective motivational factors, in our opinion, may make investment (at the national and personal levels) in intellectual improvement professionals through continuing education and self-education, the creation of high-tech conditions, a more flexible timing control the use of labor, high wages, a reflection on the level of pension assets, which also requires regulatory settlement.

Findings from the study. To summarize, we can conclude that the mechanism laid down in the pension insurance potential to improve the level of social security and the effectiveness of the socio-economic development of the state is not implemented fully. The hypothesis of the study of a potential increase of efficiency of modern pension system by updating the cost — the active period of life of people of the «old age» and to strengthen its demographic stability was confirmed. The study showed the presence of obstacles to activate stimulating factors and increase the efficiency of pension insurance. Lack of adequate features of modern social development concept to mainstream professional opportunities for the «people of the old age» led to the spread of false social stereotypes about low professional assessment of older people in different professional categories and the manifestation of age discrimination in employment relations. This circumstance makes it necessary to revise the national educational concepts. In the context of the provisions of the pension insurance and «knowledge society» extension of the period of economic activity and its actualization for citizens of «old age» is considered, in our opinion necessary and expedient.

Thus, in order to address the listed in the article problematic issues within the framework of a three-tier pension system and the educational concept of the state, in our opinion, it is necessary:

1. Activate the methodological and regulatory compliance conceptual orientation vectors of economic and educational spheres for the corresponding expansion of the range of economic activity of people of the «old age.»

2. Develop and introduce a conceptual model «of economic activity actualized people «old age» in the context of pension insurance by the development of opportunities of the real sector of the economy, education policies and administration of the labor market.

3. Develop a system of incentives and motivational factors in the implementation of the conceptual model «of economic activity actualized people "old age" in the context of pension insurance in the state and personal level.

Implementation of these proposals will enhance the development of pension insurance, increase the effectiveness of pension insurance and raise the level of social protection of pensioners in the context of further socio-economic development of the society.

Prospects for further research in this direction are the development of a holistic concept of the pension system and the harmonization of its functioning in the social environment.

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