

RETIREMENT AGE IN THE CONTEXT OF PUBLIC FINANCE IMPLICATIONS

VĚK ODCHODU DO DŮCHODU A DŮSLEDKY PRO VEŘEJNÉ FINANCE

Jaroslav Šetek
Jiří Alina
David Bajer

ABSTRACT

The aging of population, which is a pan-European as well as Czech trend, will have a significant impact after 2030, fundamentally affecting public finances. For this reason, a possible extension of the retirement age is also being considered. So far, two alternatives have been presented - retirement age of 65–67 years after 2035 and a maximum age limit of 65 years. The age limit of 65 is unacceptable for some professions due to the accelerated depreciation of human capital. Therefore, economically efficient retirement schemes should be set up for early retirement for professions with significant physical and mental stress, hazards (mining, metallurgy, construction, airmen, rescuers, etc.). At the same time, the onset of the Industry 4.0 era, coupled with extensive technological changes, complicates the forecast for anchoring the retirement age. In particular, the situation requires addressing the current problems that the Czech economy and its pension system struggle with. From an economic point of view, it is a reduction of the retirement age for particularly demanding professions.

This issue concerns the macroeconomic context with appropriate implications for public resources. Therefore, the paper requires an interdisciplinary approach to the processing of social sciences (especially economics, financial theory, social security law, sociology, demography.).

Keywords: depreciation of human capital, retirement age

JEL Classification: A12, B41, D00, E00, D24

1 INTRODUCTION

In connection with the concept of human capital, its development, or investment in human resources in relation to the performance or competitiveness of the company, is currently being widely discussed. In essence, human capital, understood as a different equipment of human resources (according to biological and psychological typology of personality, health status, educational attainment, qualifications...), is able to generate income from employment relationships through wages and salaries during working age, possibly through transfers in post-productive - senior age (Biskup & Voříšek, 2005). As with material capital we can also talk about the depreciation of human capital (Becker; 1975, 1997), which is a loss of value of the creative ability of a person (Loužek, 2014). The forms of this depreciation are also physical, moral and pathological (illness, disability...) social events. Moral depreciation being a manifestation of the inability of some social groups (especially low-skilled professions) to adapt resulting from scientific and technological development (Beck, 2007).

The notion of depreciation of human capital is expressed in terms of depreciation, which implies, at a certain level (aspect of time of employment in a particular field, permanent loss of working capacity), a pension entitlement (Novotná & Volek, 2014). The level of wear and tear of human capital accelerates especially under increased physical load, under unfavourable hygienic conditions, under increased stressogenic factors, with increased life threatening risks and higher susceptibility to burnout. In the Czech Republic, this problem affects about 650,000 employees in all sectors of the economy (mostly primary and secondary). It is precisely with the problems of accelerated depreciation of human capital that the Czech Republic's pension system is currently struggling in the context of its employment policy (Pavelka, 2017).

2 METHODS OF PROCESSING

The article is elaborated by an interdisciplinary approach of social sciences (especially economics, financial theory, social security law, sociology and political science). The main input documents are the current legislative standards of the pension system on the example of the Czech Republic, which are the subject of an analysis to determine the possible solutions.

3 RESEARCH RESULTS

3.1. INITIAL PHILOSOPHY

In the European Union, after 2000, the retirement preferences are clearly being abandoned. In the Czech Republic this has already occurred in 1992. At that time, Act No. 235/1992 Coll., on the Abolition of Working Categories and on Some Other Changes in Social Security, abolished, as of 31 December 1992, the classification into three working categories. Employees included in the 1st and 2nd working category were referred to as “preferred category employment”. The essence of the preference consisted in different ways of calculating pensions, in the case of employment in the first working category also in setting a lower age limit for entitlement to old-age pension (so-called special retirement age) compared to the general age limit. Occupations with increased physical activity, increased stressogenic factors, increased life threatening risks and higher susceptibility to burnout were put in the preferential categories 1 and 2. They included miners in underground mines, workers in metallurgy, construction, paramedics, airmen, etc. This meant respecting the principle of so-called professional disability and granting entitlement to early retirement after a statutory number of years a person has worked in this category.

The level of depreciation of human capital for retirement can be determined by an imaginary formula which represents the sum of the basic depreciation (given the total length of employment) and the preferred depreciation (as a multiple of the period of employment in difficult conditions). In accordance with the aforementioned legislative standards, only those employees who had been employed in preferential categories before 1993 and who started after 1993 would have to remain in employment up to the statutory retirement age before retirement, which increases with the economic aspects of extending human life (including retirement age) to the age of 65-67 years after 2035.

According to expert analyses it is certain that the age limit is unacceptable for some professions (mining, metallurgy, selected health care categories). This is due to the faster growth rate of the amortization of human capital, i.e. the wear and tear of the human organism due to physical and mental stress, stressogenic

and other factors. Moreover, in other European countries, irrespective of their economic maturity, the retirement age of some professions (especially mining) is between 50-55 years.

3.2. IMPLEMENTED REFORMS AFTER 1993 AND FURTHER NEED FOR NEW LEGISLATIVE ACTION

With the aim of solving the problem of so-called occupational disability in selected professions and partly replacing the “occupation in preferred categories”, the following legislative standards for the employment relationships of the military and mining profession have been implemented so far:

- For military service it was Act No. 221/1999 Coll., on Professional Soldiers, and Act No. 361/2003 Coll., on the Service Relationship of Members of the Security Forces.
- Government Decree No. 363/2009 Coll., on Determining Retirement Age and Recalculation of Old-Age Pensions of Certain Miners.

Service conditions of the armed and security forces of the state

In their nature, the service conditions of the military are granted one-time and repeatable (retirement allowances). In particular, retirement allowances are a professional “disability” pension. Their primary function is to compensate for the decline in earnings due to the amortization of human capital as a manifestation of temporary or permanent reductions in post-employment skills. In the Czech Republic, however, they have become the main competitive instrument between service relationships in the armed forces and security forces. In terms of employment policy, they thus ceased to fulfill their regulatory function (Šetek, 2010).

The retirement allowance is a repeatable financial benefit payable to beneficiaries on a monthly basis from the budgets of the Ministries of Defense, of the Interior and of Justice after leaving the service after at least 15 years of service. From the point of view of economic and social aspects, the allowance fulfills several functions - regulatory (especially in the field of employment policy), compensatory, social, etc. In its essence, it is primarily occupational “disability” pension, replacing a permanent reduction in professional qualifications after termination of service. In addition, based on sociological research conducted in the Czech

Republic and abroad, it has been proven that in service conditions, members of staff usually “wear” faster (due to physical stress and stress factors) compared to employment conditions. For this reason, the allowance is intended to motivate members to voluntarily retire from the service when they reach an age which can be regarded as a threshold for remaining in active service. Especially when extending the retirement age, it would be unethical if, for example, a member was released after 30 years of service (roughly 50-55 years of age) without adequate financial compensation for poor health, physical and other service requirements (Šetek, 2010).

From 1 January 2011 to 31 December 2016, the service allowances were subject to flat-rate taxation at a rate of 15%. It is not possible to deny the power of the government to determine, according to the budgetary situation, which revenue it exempts from taxation for what period and which it does not. However, the taxation in that period made the situation considerably chaotic. (Šetek, 2011; 4) This is because they should be subject to taxation provided that with the other (taxable) income the recipient exceeds a certain multiple of the set amount. This could be based, for example, on the minimum wage, the amount of which is set by law based on the performance of the economy (Šetek, 2011; 5). This would respect the depreciation of human capital in military service.

In all NATO countries and the European Union, there is a specific system of pension requirements for members of the armed forces of the state for a specified period of service. At the same time, it is legally ensured that the start of a civilian career as a result of depreciation of human capital during service does not bring about a social decline for the retired people. In terms of length of service, the amount of contribution is of considerable importance. If it is too low, the earning allowance loses its regulatory function and the provision of the service allowance may seem unnecessary. If the amount is set too high, the members are motivated to leave before they reach a reasonable age, thereby violating the principle of a professional “disability” pension (Šetek, 2005).

The period of 15 years of service for granting the allowance is currently the same for members of the military and security forces. The percentage of the average monthly gross salary of members of the security corps is fundamentally different (e.g. 5% in the army after 15 years of service, while in the security corps

it is 20%). On the basis of a comparison of retirement appurtenances according to the above-mentioned laws it is possible to point out inadequacy for members of the security corps. This is due to the incorrect setting of this period, already in the previous legislative amendment (Act No. 186/1992 Coll., on the Service Relationship of Members of the Police of the Czech Republic), which required only 10 years of service to grant the requisition (Šetek, 2010).

3.3. THE NEED FOR REFORM OF MILITARY SERVICE

Act No. 221/1999 Coll., on Professional Soldiers, modifies to a certain extent the cancelled working categories by increasing of the service period for the award of the retirement allowance in some systemized jobs, such as the executive aviator and the service in period of a special nature or special degree of hazard or foreign operations. The service of the executive aviator and of a special nature or special degree of hazard shall be calculated 1.5 times from the retirement allowance and twice in the foreign operations. The maximum retirement allowance for these selected service categories may be up to 60% of the average monthly gross salary (Šetek, 2010).

According to Act No. 361/2003 Coll., on the Service Relationship of the Members of the Security Corps, the increased credit for the long-term period cannot be implemented; therefore some discrimination can be pointed out especially with regards to the service in the Police of the Czech Republic and the Fire Rescue Service. There are also categories that are similar to those in the military (e.g. special intervention units, services in foreign missions, members of bomb disposal units, etc.) and the system of their retirement allowance is the same as for the “administrative” category (Šetek, 2011; 3). As a result of inconsistent service legislation and inefficient personnel policy, there are many systematic positions in the military and security forces in the service relationship. Thus, without any analysis of a systemized position, the service relationship of military personnel, whose purpose does not require it, is inadequate to the depreciation of human capital, which in fact does not occur. This in turn results in an enormous financial burden on personnel mandatory expenditures of the ministries involved (Šetek 2011; 1).

For the above reasons, in addition to the reform of service relationships, a fundamental change in personnel composition is necessary. This would consist in the reduction of some systemized positions in the military service relationship and

the subsequent transfer to civilian service or employment. In the army and security corps, these would be mainly systemized positions that constitute civilian service and employment, especially in logistics, economic and financial security, personnel management, technical support, public relations, etc. (Šetek, 2011; 2).

3.4. THE PROBLEM OF AMORTIZATION OF HUMAN CAPITAL IN THE EMERGENCY MEDICAL SERVICE - THE IDEAL SOLUTION IS TO INCLUDE IT IN THE MILITARY SERVICE

In accordance with Act No. 239/2000 Coll., on the Integrated Rescue System, the Emergency Medical Service is one of the three basic elements of the Integrated Rescue System in the Czech Republic, along with the Fire Rescue Service of the Czech Republic and the Police of the Czech Republic. Unlike the two state-controlled security forces and armed forces, it is operated regionally. This is also probably one of the main reasons why the personnel of the Emergency Medical Service in the performance of an extreme profession (such as police officers, firefighters, soldiers) does not have an institute of service (Šetek 2011; 6).

Since 2011, there has been an interest in these professions to receive pension entitlements for minimum employment with an emergency medical service at least 15 years after the age of 50. This can be considered a combination of employment with emergency medical service. In fact, it seems somewhat complicated and inefficient for the state. Efficiency can be achieved by transferring selected emergency medical professions to military organized service. At the same time, the existing social security system needs to be reformed in order to grant pension payments after 20 years of service under a single law on service in the armed forces, security forces and emergency medical services. This would consequently increase the effective functioning of the integrated rescue system, defense and national security (Šetek, 2011; 7). Armed Forces, Security Corps and Emergency Medical Services should not compete with each other in the labor market. There would be the possibility of a smooth transition of appropriate professions and transfer of experience between service components (Šetek, 2011; 8). A typical example is the possibility of recruiting emergency medical professionals in military medical missions abroad under the auspices of NATO, the United Nations and the Organization for Security and Cooperation in Europe and vice versa (Šetek, 2011; 6).

3.5. MINING PROFESSIONS

With the intention to solve the problem of so-called occupational disability in mining professions and partly to replace “occupation of preferred categories”, in 2009 the government stepped in by issuing Regulation No. 363/2009 Coll., on Determining Retirement Age and Recalculation of Old-Age Pensions of Certain Miners who started to work before 1993. According to a decree that came into force on 1 July 2010, the retirement age of miners was reduced to 55 years of age. The condition for granting the aforementioned retirement age was a period of employment in mining with a permanent workplace underground in deep mines before 1 January 1993 at least until 31 December 2008. Therefore, the above-mentioned legislative measure addressed the issue of so-called occupational disability only partially, due to the decline in mining. In accordance with the above-mentioned legislative standards, only miners who had been employed in underground mines before 1993 could retire earlier, and those who started after 1993 would have to remain in employment up to the statutory retirement age, which will increase, especially due to the economic aspects of extending human life (including retirement age), to the age of 65-67 years after 2035.

According to expert analyses, it is certain that the age limit is unacceptable for some professions, including mining. This is due to faster wear of the human body due to physical and psychological stress, stressogenic and other factors. Moreover, in other European countries, irrespective of their economic maturity, the age limits of mining occupations for retirement are in the range of 50-55 years.

3.6. EVALUATION OF RETIREMENT OF PREFERRED PENSION CATEGORIES

“Pension categories were removed from the system not because of the removal of risky work, but because of the change in social conditions. It was no longer a state that employed workers in their businesses and had to take care of them, but enterprises belonging to private sphere.”

The opinion of the Chamber of Commerce and the Confederation of Industry

The beginning of the problems can be traced back to extensive structural changes in the Czech economy with appropriate privatization tenders of major compa-

nies in terms of their strategic and social positions with enormous employment in this field. These changes were not linked to appropriate social programs, especially in the event of a downturn, etc. From the viewpoint of strategic importance for the state and social aspects, there can be doubts about the justified effectiveness of privatization of mining companies and metallurgical companies. If the State controlled these companies, then the social security expenditure of the miners for early retirement would not be in any doubt. If the company had already been privatized, the privatization contract should have addressed the obligation of the acquirer to ensure the financing of social programs in the event of early retirement due to a decline in mining or other events.

3.7. POSSIBLE SOLUTIONS

It is certain that the interest in monitoring the accelerated depreciation of human capital and the subsequent early retirement does not exist only in mining and military service. There are a number of professions with the same problem, such as metallurgy, health care workers in hospitals, social workers in residential care facilities, etc. There are a number of options for solving the problems of these working categories:

1. Renewal of pension categories and keeping the issue fully as the responsibility of the state,
2. The employer's obligation to pay increased social insurance contributions to public funds.
3. The employer's obligation to pay increased contributions to private supplementary pension insurance.
4. Allow employers to make contributions - liberal vision.
5. To maintain the same age limit for all groups and for those unable to work in their current job position to establish a retraining program for changing their job position.

The starting document for the above five options would be the National System of Occupations, for the following reasons:

- There is an open and publicly accessible database of information on occupations that occur on the Czech labour market.

- Employers participate in its creation through sector councils as their representative.
- For each occupation, work activities, working conditions, health and qualification requirements, and required competencies are described.
- Occupations are integrated into the system according to field and qualification level.
- Its content makes it one of the most up-to-date and European databases for a wide range of students, employees, the unemployed, labour offices and HR professionals.
- It serves as the main information source for the creation of the National Qualifications Framework.

The first option - returning pension categories and keeping the issue fully as the responsibility of the state seems to be quite ineffective for the state. This stems from the fact that the state is not the owner of all economic entities operating in the Czech economy as a result of extensive structural changes. This would benefit non-state economic entities in particular. As mentioned above, this option is not viable.

The second option - the employer's obligation to pay increased social insurance contributions seems to be the most feasible. Based on the classification of the profession according to the National System of Occupations, the employer (regardless of the state, private entity) would be obliged to pay higher contributions for designated employees. The combination of the amount of contributions and the number of years worked would create a right to a reduced retirement age. Everything is under the control of the state, the employer fully participates in the solution of the problem, moreover, they have an economic motive, especially with the advent of the Industry 4.0 era, when savings of mandatory social insurance expenditures can focus on technology modernization (Džbáňková & Sirůček, 2013).

The third option obliging the employer to pay increased contributions to private supplementary pension insurance is also ineffective. This is due to the considerable administrative costs of implementation. In addition, selected employees would be forced to take out an otherwise voluntary supplementary pension sche-

me to which the employer would contribute (on average 4% of gross salary). It cannot be ruled out that employers would reduce wages, especially in periods of stagnation, and inevitably the contributions to supplementary pension insurance would also fall. For employees, this would mean forced participation in the solution of the problem. Thanks to the savings, they could retire early, perhaps five years earlier, and would benefit from the savings. They would also become state insured persons in the health insurance system.

The fourth option - to leave the employer to make contributions (liberal version) would fully result from the corporate culture (corporate social policy) on contractual terms, which would also be an instrument of competition in the labour market. That is to say, it would be entirely in the employer's full discretion whether to provide these benefits or not. The position of the employer on the labour market would also depend on this. It is certain that in times of economic growth they would increase these benefits in order to recruit human resources in the labour market, reduce or cancel them at a time of stagnation. This could also cause significant structural disproportions in employment and performance of economic sectors, which would ultimately undermine the assurance of stable economic growth. This would ultimately jeopardize significant economic interests of the state.

The fifth option - to maintain the same age limit for all groups and for those unable to work in their current job position to set up a retraining program to change their job position, also seems to be ineffective. It would also be a question of who would guarantee and finance the retraining program - employer or state or a combination of both.

3.8. ECONOMIC QUANTIFICATION FOR EARLY RETIREMENT OF INTEREST PROFESSIONS

Assuming that the latter option seems the most feasible one (the employer's obligation to pay increased pension insurance contributions under the social insurance system), this can also be clearly presented by economic quantification. By applying this method, it is possible to quantify the estimation and forecast of pension insurance expenditures related to the implementation of appropriate measures. It is based on funds created in public resources and their use for securing soci-

al interest groups in the national economy. The division of inputs and outputs into the economic analysis is possible from several points of view. The classification of a given input or output is of some importance with regard to economic analysis. The basic division, and most important from the economic analysis point of view, is the distinction of real financial flows in the creation and use of public funds.

It is quite certain that the entitlement to early retirement is for selected professions in mining, metallurgy, and heavy industry (construction, transport, etc.), but selected occupations in social and health services are also considered. For this reason, it is possible to quantify the expenditure corresponding to one month for the creation and drawing of a retirement pension for interest professions. The basic input documents for quantification processing are the following statistical indicators:

- Average life expectancy in the starting year (76.4 years in the first half of 2019) assuming further increase.
- Average wage for the reference year (CZK 34,000 for the first half of 2019).
- The number of workers in particularly difficult jobs in the economy (estimated at 650 000), which is 11% of the economically active population. Average length of employment in strenuous professions within the economy.

In addition, the above indicators for determining the methodology shall be assigned appropriate attributes, containing the following information:

- Ratio of years of service in strenuous professions to one year before the age limit for retirement pension by year of birth (10 years worked for 1 year of early retirement).
- Percentage increase in employer pension contributions (estimated at 3-5%).

Based on the above economic quantification, pension insurance benefits will be divided into individual groups. Thus, it can be assumed that within the early retirement interest group, the financial resources generated and their use on the basis of the insurance fund will be rather homogeneous, while they will remain more or less heterogeneous among the social groups of old-age pension users. This distinction is particularly useful when the benefit of selected groups is monitored.

The importance of differentiating pension expenditure and income is to determine the time periods when these flows occur. From the analytical point of view,

it would be irresponsible not to differentiate the time value of these flows, as they differ considerably in resource intensity, such as their generation (Wawrosz & Valenčík, 2014).

4 CONCLUSION

The introduction of so-called early pensions within the supplementary pension insurance, i.e. in the savings on pension (.the above-mentioned third option), seems to be very popular. However, this concept is not used in practice by employers and their employees, especially in the primary and secondary sectors (mining, metallurgy) and other strenuous professions. In order to arrive at a consensus, it is possible to find an optimum between the state and employers to pay increased social insurance contributions (i.e. the above-mentioned second option) to selected professions in accordance with the classification of the National System of Occupations. In this context, an outline of the methodology of economic quantification for the creation and use of the pension insurance system for interest groups of the population in particularly demanding professions of selected sectors of the economy is also presented.

For service relationships in the armed and security forces of the state, it is entirely appropriate to maintain autonomy within the social security system. However, it would be fully effective if it were based on a single law (e.g. the Retirement Act) with a focus on accepting the amortization of human capital. It can be stated that the ideal model for the creation of one legislative standard would be Act No. 221/1999 Coll., on Professional Soldiers, which largely modifies the cancelled working categories, by increasing the credit for the service period for the award of retirement allowance in certain functions of special danger, physical and psychological load and the like.

ACKNOWLEDGEMENT

This paper was prepared within the project of the Grant Agency of the University of South Bohemia under the number EF - GAJU 074/2017 Development of the South Bohemian Region - the potential for the application of the initiative of the European Commission Smart Region.

REFERENCES

- BECK, U. (2007). *Policy Invention: The Reflexive Modernization Theory*. Praha. Sociologické nakladatelství.
- BECKER, G. S. (1997). *The theory of preferences*. Praha. Liberální institut, Grada Publishing.
- BECKER, G. S. (1975). *Human capital: A theoretical and empirical analysis with special reference to education*. Second edition. Chicago and London: The University of Chicago Press.
- BISKUP, J., VOŘÍŠEK, V. (2005). *Pension insurance*. 1st edition. Praha: Eurolex, Bohemia.
- DŽBÁNKOVÁ, Z., & SIRŮČEK, P. (2013). Rationality in Economics- Male and Female Perspectives. 7th International Days of Statistics and Economics Location, 375–387.
- LOUŽEK, M. (2014). *Pension reform*. Praha: Karolinum.
- NOVOTNÁ, M., & VOLEK, T. (2014). Labour as a factor of production in the context of gross value added growth in sector A. *Scientia Agriculturae Bohemica (SAB)*. Czech University of Life Sciences Prague. (2), 129–135.
- PAVELKA, T. (2017). Long-term unemployment in the Czech Republic and the effect of distrains. 11th International Days of Statistics and Economics. Praguea. Czech Republic. 1153–1162.
- ŠETEK, J. (2005). Provision of members of power ministries in selected NATO and EU member states. *Výzkumný ústav práce a sociálních věcí*, Praha.
- ŠETEK, J. (2011). Legislative reform of the armed forces and security forces and personnel policy change. *Labor and Social Policy No. 2*, Vol. 8, 5.
- ŠETEK, J. (2011). The necessity to reform leaching requirements. *Policeman No. 2*, 2011, Vol. 8. 23.
- ŠETEK, J. (2011). Taxation of leachate contributions. *Labor and Social Policy No. 4*, Vol. 8, 5.
- ŠETEK, J. (2011) Employment of Extraction Benefit Beneficiaries in State Administration. *Labor and Social Policy No. 7-8*, Vol. 8, 5.
- ŠETEK, J. (2011). Possibilities of recruitment of emergency medical personnel into service. *Labor and Social Policy No. 10*, Vol. 8, 4.

ŠETEK, J. (2011) Competition of service conditions on the labor market. Labor and Social Policy No. 1, 2011, vol. 8, 5.

ŠETEK, J. (2011) Provision of retired persons under one law and one authority. Labor and Social Policy No. 5, Vol. 8, 5.

WAWROSZ, P.; & VALENČIK, R. (2014). How to Describe Affinities in Redistribution Systems. 18th International Conference CURRENT Trends in Public Sector Research. 212–220.

Ing. Jaroslav Šetek, Ph.D.

Faculty of Economics, University of South Bohemia
Studentská 13, 370 05 České Budějovice, Czech Republic
Email: jsetek@ef.jcu.cz

Ing. Jiří Alina, Ph.D.

Faculty of Economics, University of South Bohemia
Studentská 13, 370 05 České Budějovice, Czech Republic
Email: jalina@ef.jcu.cz

Bc. David Bajer

Faculty of Economics, University of South Bohemia
Studentská 13, 370 05 České Budějovice, Czech Republic
Email: bajerd00@ef.jcu.cz