

# PRODUCTIVE EMPLOYMENT AND CAREER PATHWAYS IN CURRENT PENSION SCHEMES

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## Abstract

The paper depicts the situation of current pension schemes in relation to the labour market, demographic changes, quality of life and health and social situation of employees. As an example, we present the current situation of Czech mining industry. It also demonstrates the possible role of QALY and DALY indicators in relation to the research problem. It is based on the principle that the universal pension scheme is the basic alternative of the pension scheme available for every employee, i.e. for the citizen and the special pension schemes are perceived as this system upgrade. The results support the concept of quality of life being an important part of required analyses and the importance of careful changing the parameters of pension systems according to the demands placed on them today.

**Key words:** universal pension scheme, special pension scheme, quality of life, pension, QALY

**JEL Code:** I310, H800, H55

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## Introduction

With changes on the labor market and the development in the field of medicine and health policy (Fiala, & Langhamrová, 2007), becomes more important to deal with the issues of quality of life (Bourdieu, 1986) in the course of professional career and its part within the pension schemes.

The paper evaluates the current pension schemes in relation to the labor market, demographic changes, quality of life and potential existence of special pension schemes for some social groups and industries, mainly disadvantaged due to the nature of workload in relation to the health-social situation.

In this context, it is necessary to analyze the relations of the universal pension scheme and potential special pension schemes, aspects of their evaluation and the social-political significance. The situation of Czech mining industry serves as an empirical example.

The paper is based on the theoretical principle that the universal pension scheme is the basic alternative of the pension scheme available for every employee, or even the citizen of the particular state. In some countries, especially in the past the existence of the pension scheme was perceived as the employee benefit itself (VÚPSV, 2011); this principle resulting in the existence of branch pension schemes as a tool to provide for relevant social groups will be considered secondary in this text. Prospective special pension schemes will primarily be interpreted as a possible update to the universal pension scheme with clear preference to utilize the universal approach for the social security in pension, if possible.

The research methods include socio-economic analysis of determinants influencing special pension schemes, induction of social policy issues based on observed trends in reality and discussion on public policy tools when dealing with social situation in industries and with impacts on the national economy.

## **1 General pension schemes' framework**

The issue of professional pensions (special pension schemes) contains a number of economic and social aspects. It is obvious that in this respect each special precaution bears its pension scheme expenses; at the same time, however, it shows its social aspects and economic connections for which these precautions are taken into account. As in other fields of social policy, relevant costs are compensated with relevant benefits and the question is in which "branch" of the pension scheme these costs and their amount will be reflected. If we were to separate the relevant areas with the emphasis on premature pensions, this can basically be done as follows.

Economic aspect – referring to the afore-mentioned costs and their relation within national economy. From the purely micro-economic perspective, it refers to increased costs of the respective industry where the professional premature pensions are generated; in this sense they are indirectly included in the wage costs and should be viewed as such. This idea results in maintaining the structure of relevant schemes by agreement between the employee and the employer (Arbetsgivarverket, 2011), in principle without any external support and generally speaking even without the obligation to generate such pension schemes.

Social aspect – employees, who cannot perform their jobs because of the requirements of that particular branch and their health-social situation, can be basically „provided for“ either by another job (which might require requalification or periods of unemployment), or related public-service (special) pension, or disability pension. If these systems cannot be utilizable for

a person, it is possible to turn to mechanisms of social welfare. In any case, it involves potential “clients” of the social system at its relevant levels and it is important to treat them as such within the pension concept. It implies that the massiveness and availability of prospective special pension schemes also result in its protective social function; if they are absent, it is necessary to use other social-political mechanisms with related costs or social consequences.

Teleological aspect (Engliš, 1930) (Engliš, 1932) – it is practical to take into consideration and to analyze the specific goal of respective special pension schemes. Generally, two targets can be detected:

- Enhanced living standard of the employees of the respective branch and enhanced motivation for those interested in working there
- Preventive solution of social situation and social risks in the described purpose of relevant funds accumulations or other special pension schemes

The relevant teleological specification makes us realize that the first afore-mentioned objective is almost exclusively a field for potential modification of these relations at the level of employee/employer; with possible correction in case of macro-economic imbalance. The second objective represents a social aspect, thus a potential incentive for public interest and adequate position in the concept of social policy. This specification also reveals that the second aspect is crucial for a branch with a relatively lower standard of wages and higher intensity of labor (e.g. health service, building industry). Theoretically, it would be possible to distinguish these objectives as to whether that particular scheme only relieves the health-social situation of the employee by allowing him to early retire or by adjusting working conditions and whether in general it enhances the level of his pension scheme as such.

The key aspect for the prospective structure of special pension schemes is the retirement age (Vostatek, 2015). It can be noted that the higher and less flexible this age shall be, the more distinct incentives for the structure of special pension schemes will exist within the national economy. On the other hand, the growing individual flexibility of universal pension schemes is connected with little “relying” on special pension schemes, for this flexibility basically resolves necessary provision for respective social groups in many cases, even at the cost of its lower financial level. A sufficiently massive universal pension scheme thus markedly reduces the need for the production of special pension schemes; among others it is also connected with the independence of the employer and the value of the respective branch.

From this perspective, it is evident that the development in recent years has brought about more pressure to allow higher flexibility: prolonging the retirement age (Domonkos, 2015) and present waiting for an „extensive“ pension reform in terms of its higher flexibility,

e.g. as for NDC system the result is that some social groups are exposed to pressure into allowing the implementation of early pension schemes. It is a relatively new feature because after 1990 one of the key benefits of the ongoing transformation of the pension scheme referred to the harmonization of the retirement age and cancellation of benefits for some social groups, the so-called cancellation of job categories. Whether these advantages were motivated by the real intensity of labor or the social preference of some social groups and job categories, their existence was perceived as fundamentally non-system within the economy transformation, which is why the reform efforts aimed to gradually eliminate them in order to introduce a uniform pension scheme for all insured persons (Krebs, 2010). The subsequent increase of the retirement age, in progress since 2011 („never-ending“ retirement age), however, caused that the situation of certain social groups began to be viewed as problematic as regards this increase, which is why the system generated impulses to additional modifications in this respect.

### 3 QALY, DALY and their relation to the pension scheme

QALY, DALY, also HYE (Healthy Year Equivalent) and WAI (Work Ability Index, 2015) are indicators aiming for the quantification of the quality of life in relation to individual's health condition. This could be theoretically used in the concept of the pension scheme. If the quality of life remains good (unchanged or only slightly lower), individual's work capability is expected and the person thus maintains the ability of economic activity; he does not have to be considered a recipient of the pension or another social scheme benefits.

In connection with the evaluation of medical methods and changes in health conditions, the concept of Quality Adjusted Life Years (QALY) was developed, measuring the quality of life. The mechanism of the calculation of QALY indicator is mentioned e.g. by Hurley (Hurley, 2000):

$$QALY = \sum w_h * t_h,$$

where h represents the number of individual health conditions,  $w_h$  is the criterion of quality connected with each of these health conditions and  $t_h$  is the time spent on each of them.

A real calculation is demonstrated by the following example. If a person spends 12 years out of 30 years of his life being completely healthy ( $w_h=1$ ), 4 years will be spent with chronic back pain (0,8), 2 years being bedridden after the subsequent spine surgery (0,2), the next 3 years moving in a wheelchair (0,5), and only then capable of walking with a stick (0,7), then his QALY indicator for these years will be calculated as  $12*1+4*0,8+2*0,2+3*0,5+9*0,7=23,4$ . The anticipated 30 years of real life shall thus correspond to 23,4 years of „QALY“ life.

For WHO level in connection with the measurement of the healthy-life period, DALY (disability adjusted life years) indicator is used for a specific illness, expressing the loss of years

due to premature death and the number of active years limited with invalidity or bad health conditions. It is demonstrated by the following formula:

$DALY = YLL + YLD = N * L + I * DW * L$ , with N .... number of demises, L .... medium lifespan at the moment of death, I .... incidence of illness, DW .... degree of disablement (0-1), L .... duration of the illness (till the moment of recovery or demise).<sup>1</sup> YLL (Years Life Lost) represents the number of years lost with bad health, YLD (Years Lost with Disability) represents in this calculation the number of years with health disablement.

Literature (Babisch, 2010) presents Years Life Lost as a result of ischemic heart disease (ICHS) from the noise exposure in Germany: 361 DALY per 1 Mio. population, further comparison DALY for various environment factors, calculated by the Dutch Institute for public health and environment RIVM: household injuries, long-lasting effect of air-borne particles or traffic accidents cause in the Netherlands with 100 000 DALY per year a noise of approximately 50 000 DALY, alimentary infection of 1 000 - 10 000 DALY and carcinogenic air pollution of ca 10 DALY per year.

Theoretically, it is possible to develop these special pension schemes which would recognize the right of the respective person to use this scheme with sufficient decrease in QALY, or rather DALY in relation to the situation in the industry. Here again, two concepts could be used: either individual where the claim from the relevant scheme would be recognized in case of the indicator change with the specific employee, or average where the calculation of the typical decrease of these indicators with a specific profession would result in adequate reduction of the retirement age, possibly it would allow joining the respective special pension scheme according to set rules. If this scheme also took into account the cost of treatment in relation to the quality of life, it is possible to quantify the benefits of potential preventive and treatment programs for the employees of the particular branch.

From the perspective of intergenerational justice seems to be optimal to average indicators of quality of life as measured between generations are the same or to rise. Thus, if a certain generation is entitled to a certain number of years of paid retirement for certain qualities that the next generation had the same entitlement or higher. Specific indicator used for this calculation is a matter of public choice; each has certain drawbacks that limit its use. However, if we recognize the service pension principles as fundamental to the pension system at present, then this dominion should have certain characteristics and it is clear that in the context of raising the retirement age seems difficult to ensure e.g. 15 years lived in retirement for today's pensioners it was as good as 15 years lived in retirement for future retirees. The analyzed indicators have if their utilization potential to better measure these values, and therefore supplementation of the standard calculation of retirement age in relation to the length of survival.

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<sup>1</sup> Specific effects in terms of health conditions in diversely developed countries are analysed mainly by (WHO, 2000).

#### **4 Example of Czech mining industry**

Working in underground mines is a typical example of strenuous work industry which historically offers the incentive to allow premature pension as part of the special pension scheme. Prolonging the general retirement age within the basic pension scheme for this social group „puts pressure“ on solving their social situation by means of special measures within the pension scheme. There are actual possibilities resulting from the theoretical analysis as to how to deal with the relevant social situation. The basic step is to determine the so-called permissible duration of the exposure after which according to health-social criteria (though the aforementioned QALY and DALY indicators are not utilized directly) the health condition of the employee is deteriorating, thus generating the incentive to restrict the possibility to perform the profession in question. As regards the mineworkers, the situation is much more complicated since exceeding this period results in health problems – at the average – quite provably and as a result of the practice of profession. After exceeding this period there are following options:

- 1) To enable/facilitate the respective employee to overcome the situation during the critical period with the unemployment benefit and related requalification
- 2) To use some of the characteristics of the general pension scheme if possible (premature retirement)
- 3) To develop special pension schemes utilizable by the relevant social group (pre-retirement system, special amendment to retirement)

At present time (2014-2015), at the level of the Ministry of Labour and Social Affairs of the Czech Republic we could notice the draft amendment to legislative amendment on the Czech pension scheme by course of special pension amendment for mineworkers. This amendment applies to a specified circle of insured persons working in mining industry, containing an amendment on reducing the retirement age for these insured persons by five years and a special way to determine the level of percentual assessment of the old-age pension. As regards the structure of the Czech pension scheme, these measures are interlinked – if the retirement age is reduced, it is effective to modify the percentual assessment of the old-age pension as well, even in relation to former claims of mineworkers as they have been gradually amended by applicable government regulations since 1995.

The respective draft contains provisions which illustrate the aforementioned problem specifically by § 37b of Amendment to Act No. 155/1995 on Pension Insurance, based on number of shifts done at the mining industry.

The retirement age of these insured persons will be reduced by 5 years with the current amendment to the percentual pension assessment. It implies that if the insurance premium rate remains unchanged, the retirement age of these insured persons will be substantially reduced – they will thus have financial advantage based on the respective maximum exposure which was determined by health-social criteria. These criteria are average since they apply to all insured persons of the respective branch and the claim is therefore universal in the respective social group, whereas the differentiation by the type of the executed work and the related health-social intensity is still applicable. Based on the report of the Ministry of Health dated August 2013 (MZ ČR, 2013), mineworkers suffer most from vocational diseases. 13% of all professional vocational diseases in the Czech Republic apply to mineworkers. The most frequent symptoms include pneumoconiosis or peripheral nerve disorders from vibrations; these disorders usually have permanent negative impacts on the quality of life. Also, the risk of job-related injuries is higher in the mining profession than in most common jobs.

As indicated in related explanatory reports and the analysis of the branch situation, similar drafts are the out-come of the health-social situation of respective employees as well as of the structural situation in the branch. Applicable drafts accelerated in connection with the situation in Ostrava-Karvina region developing after 2010 in connection with the structural situation on the coal market and the overall situation in the mining industry – Paskov Mine. There were also discussions about the cost of the social situation of relevant social groups. Parameters of the Czech social-economic system indicate that the average macroeconomic cost of a person, who will be allowed to utilize this special pension scheme and to retire, are much lower than the cost of the unemployed even in case of their requalification. For that reason, according to the theoretical definition even the cost aspect of the relevant issues on the respective “levels” of the social system has been taken into account.

The problem of the selected solution undoubtedly lies in the afore-mentioned link to the expenditure aspect of the first pillar of the pension scheme where this solution at first seems an easy and practical relief, resolving the economic problem, however, then we realize the income aspect has not been dealt with, for the claim in question is not attended by the measures on the side of the pension scheme income – e.g. by increasing the insurance premium for the respective social group, or by introducing a special branch pension scheme with the income and expenditure part. Financial cost related to the draft amendment will depend on the number of mineworkers meeting the set conditions which will develop according to the extent of the mining slump. These additional costs will be split according as the mineworkers meet the set

conditions and as the scope of mining is decreased. If the number of mineworkers were decreased by ca 25%, the cost would amount to CZK 26 billion by 2070.

Nevertheless, it is also true that from the social-political perspective under current conditions in the national economy and with no schemes of accumulation type, other solutions of the aforementioned problems are more complicated to be promoted and implemented. The system of the so-called pre-retirements is voluntary and the participation in it is (in terms of employees) attended by parallel reduction of their disposable income compared with the previous situation. Increase in the insurance premium or dependence of the employee on individually saved means in the third pillar shows similar characteristics. This situation demonstrates that if we intend to develop special pension schemes, it is necessary to focus on it in the concept of the pension scheme and to monitor whether these pension schemes are really created and whether they fulfil the intended purpose; in practice, it is far more difficult than it seems in terms of the theoretical value of the rationality of the pension scheme concept. In this sense we can see that up to now the public policy has not decided about the method that will be used, leaving the miners in uncertainty (Sondy, 2015).

## **Conclusion**

Key determinants of potential special pension schemes are the increasing life expectancy, type of the working career and the related parametric modification of the pension system – retirement age and its potential individual flexibility, as well as relevant claimed compensations. In this respect, modifications have a direct impact as to whether special pension schemes will be necessary and for which social groups they might be intended. In general, if the pressure on the special pension schemes is perceived as too big, the best method is a high-quality and sufficiently robust universal pension system; here the citizens may implement their pension scheme throughout their whole professional career.

Another factor is the situation on the labor market and the quality of life of the employees. We can observe both more complex QALY and DALY indicators, which are applied in the theory and practice of the health policy worldwide to assess health-social aspects of life and its quality, and simpler methods consisting in the number of years/hours worked or the indicators of invalidity in the particular branch which can also be used especially for employment purposes. The issue of individual flexibility of the employees – requalification is quite essential too. On the one hand, considering the present length of one's professional career, it might be a necessary aspect for a number of professions and it basically represents the solution of the first choice



within the universal pension system as to how to ensure continual income allocation without special requirements. On the other hand, it is quite problematic to force social groups, which have been performing strenuous jobs for a long time, to undergo requalification because after a certain period of time their working ability is lowered or damaged as a result of lifetime job and some of them, as it is often put in, might not even live to see the end of their professional career. Sources-accumulating schemes are elegant to the intent that they let the employees and employers find the solution and by accumulating the sources they provide the respective employees with higher pension standard, being fully reflected in the costs of the branches as well as in economic balances of respective employers. This also determines their economic rationality, for it is micro economically fully rational for the prices of relevant products to include full costs of labor force in the respective branches, including their life cycle. Their implementation, however, calls for sufficient value of the branch, its structural stability and willingness to create such pension schemes. An example of such measure in the Czech social system are the so-called pre-retirements, voluntarily accumulating contributions of employees and employers who have chosen this system. Eventually, these voluntarily run schemes are even not associated with the given criteria of lower quality of life or the limited period of the profession practice: they might be implemented mainly or purely on the employer provided pension principle, if agreed by social partners.

If those schemes are not feasible or acceptable, we can think about modifying the parameters of the universal pillar, either by government subsidy or changing the rules of paying. These different demands are characteristically justified by the intensity of labor in the respective branches compared with ordinary branches (average); therein also lies their sticking point, for it is difficult to recognize these claims only for some groups of employees, while others are not entitled to; it might be helpful to use objectified indicators of the quality of life and the intensity of labor which sufficiently and convincingly justify these claims. An example of such a scheme in the past were the so-called job categories and recently the draft amendments to retirement claims of mineworkers; moreover, they intend to sort out the situation in the branch from the social point of view. However, current pension theory sees this approach as not highly suitable for a good universal pillar.

The questions of retirement age and state of health of employees have a significant impact as well as general aspects of social policy. Impaired health condition often leads to incentives for early retirement if the pension system allows for some variation. It can be stated that the role of prevention and prolonging the productive involvement is in relation to the sustainability of pension systems is crucial. It is problematic to change the retirement age solely by taking into

account life expectancy in the design of pension systems in terms of population forecasts (although it is without any doubt the primary design tool for pension systems), without addressing the fact of what quality people live and whether they are able to work. If the pillars of pension schemes fail or are not adequately used, this will be reflected on the labor market situation and consequently in the framework of the various levels of the social system, namely for employment policy, social security and social assistance and this calls for a solution on the public policy level.

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