MACROECONOMIC ASPECTS OF TWO PATHS TO THE SUSTAINABILITY OF THE PAY-AS-YOU-GO PENSION SYSTEM UNDER THE EXPECTED DEMOGRAPHIC DEVELOPMENT

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Abstract

As a result of natural demographic development, population dynamics has been slowing down and life expectancy has been increasing. If we want to maintain the stability of the pay-as-you-go pension scheme, it is necessary to maintain the ratio between those who contribute to the system and those who benefit from it. This can be done either by forcing the retirement period to be enforced or by increasing the incentive role of the pension system to extend the period of employment. The paper is based on a comprehensive view of the use of the second option, i.e. on the effective involvement of the lifelong learning system, health care aimed at preserving the physical and mental dispositions of a person, social work aimed at increasing the employability of handicapped or excluded people. It shows the economic mechanism of motivating the above-mentioned productive services to contribute to the permanent stability of the pension system, and shows the macroeconomic impacts in the form of multiplier effects of these productive services and their effect on changing the character of growth, which can be significantly more environmentally friendly and socially friendly without changing the way it is calculated.

Keywords: *Pension system, macroeconomics, sustainability, statutory retirement age*

1. INTRODUCTION

A well-designed pay-as-you-go pension insurance system is not only an important basis for a person's security in the period when they are unable to procure sufficient resources for a dignified life, but it is also one of the safest forms of savings. This second function, which is particularly important when the economy is threatened by turbulence in the financial markets, is sometimes forgotten. At the same time, setting up the pay-as-you-go pension insurance system in such a way that participation in it is also motivating for the middle classes, including the upper middle classes, is an important prerequisite for its sustainability and stability against various external influences. It is also an important basis for social solidarity, not only intergenerational but also intragenerational, both in terms of income and the effects of various influences on people's lives (OECD, 2023). Finally, this system has an important macroeconomic role, which is discussed in our article.

One of the external influences that affect the pension system is demographic development. In most EU countries, this is characterised by the following attributes:

- Population dynamics (fertility) is decreasing.
- Life expectancy is increasing.
- The influence of predictable demographic waves caused by the economic or security situation is evident.
- Migration is becoming a principal factor, with the composition of migrants entering or exiting the system being particularly important.

An important prerequisite for the stability of the pension system is to maintain the ratio between those who contribute to the system and those who draw from it. This can be done in two ways:

1. Either by forcing an extension (increase) of the statutory retirement age.

2. Or by increasing the incentive role of the pension system to extend the period of gainful employment.

The first way seems to be the simplest, with immediate effects expected, because every month the extension of the retirement period, and thus the possibility of receiving pensions, reduces the payouts from the system. In some countries, this solution is taken for granted, if not the only possible one. However, an increase in income into the pension system can also be achieved by creating effective incentives to ensure that the largest number of system participants are interested in extending the horizon and zenith of their gainful employment and, if necessary, in postponing even a part of their payments from the system. Two circumstances should be noted here:

1. If we increase the retirement age across the board (for everybody) and by force, the scope for voluntarily extending the period of employment and for creating the appropriate incentives is significantly reduced.
2. The incentive role of the pension system to extend the period of gainful employment comes at a cost, it assumes an increase in payouts and thus also in expenditure from the pension system. However, the system can be set up in such a way that the motivations are effective and the effect of increasing income into the system is significantly higher than the motivating increase in payouts from the system (we shall show how).

However, what is overlooked, and what is most important, lies in something else. The following can make a substantial contribution to extending the period of voluntary gainful employment:

- Family upbringing.
- A system of education at the lowest levels aimed at making a person at an early age a certain idea of the path of his or her lifelong career and gradually concretizing it.
- Focusing the final levels of education, especially higher education, on the long-term employment of graduates in professional markets.
- Lifelong learning enabling the upgrade of qualifications in response to changes in professional markets and the use of life experience.
- Health care aimed at preserving a person's physical and mental dispositions.
- Social work aimed at increasing the employability of handicapped or excluded people.

If these areas of productive services (productive in the sense that they contribute to the acquisition, preservation and use of human capital, i.e. that they contribute to increasing the productivity of labour) fulfil their role, the incentive role of the pay-as-you-go pension system must also apply to them. This means that they must be able to participate in the economic effects they bring. This brings us to the macroeconomic consequences of increasing the role of the above-mentioned productive services in voluntarily prolonging the period of gainful employment of a person. This role has two macroeconomic aspects:

1. Instead of reducing the income of older people, which necessarily acts as a negative spending multiplier, there is an increase in the income of these people. The contradictory consequences have direct and significant effects on tax collection. From this point of view alone, it can be said that a flat-rate extension of the period of productive employment may be what is called 'saving in the wrong place'.
2. Motivating the above-mentioned productive services to contribute to the permanent stability of the pension system by prolonging the period of productive employment has significant macroeconomic impacts in the form of multiplier effects of these productive services and their effect on changing the nature of growth, which can be significantly more environmentally friendly and socially friendly without changing the way it is calculated.

2. MATERIALS AND METHODS

2.1. Materials

The subject of our research is the issue of scientific reflection of changes in the pay-as-you-go pension insurance system in a broader social, especially macroeconomic, context.

One of the most important tools is the definition and delimitation of concepts, or the ability to find alternatives through conceptual determinations, to reveal the incompleteness of existing conceptual determinations, to create a more developed conceptual system that contains the previous level of cognition, at the same time identifies its incompleteness and overcomes this incompleteness.

2.2. Methods

Definitions and theoretical background of the research of pay-as-you-go pension scheme:

- An insured event in the pay-as-you-go pension insurance system is a situation in which a person loses his/her ability to obtain sufficient resources for a dignified life through gainful employment on professional markets because of the loss of physical or mental dispositions related to the ageing process. In this system, therefore, it is a matter of solidarity between those who want and can assert themselves in the professional markets even at an older age, and those who have already lost this ability in the context of the ageing process.

- From this point of view, the pension system can also be understood as transforming the funds paid by a certain person into the pay-as-you-go pension insurance system, considering their fair value over time, both in the valuation of the funds paid out and the funds paid. (This is most closely reflected in the current Austrian pension system, or also in Sweden).

- At the same time, the pay-as-you-go pension scheme fulfils the function of a certain degree of income solidarity, i.e. it protects even those who, for assorted reasons, have paid a small amount of money against the risk of extreme poverty. The most appropriate form is the tested single basic benefit paid from the taxation of pensions, which is received by all participants in the system.

- Taking time into account in terms of both income and salaries is best done based on a five-year moving average of real wages, or in some combination with inflation.

The effectiveness of the pay-as-you-go pension insurance system is determined by its motivational role in prolonging the period of productive gainful (even partial) employment of a person in the professional markets, in the proper payment of funds into the pension system according to the established rules, and in motivating those who can contribute to the voluntary extension of the period of gainful employment of older people:

- For example, health insurance companies should compete in the provision of above-standard health services that enable the extension of the period of productive employment of a person and that would be financed from a share in the income effects of these services, as well as in the case of other services.

- Increasing the efficiency of the pay-as-you-go pension insurance system is a long-term process that is related to reforms in other areas of the social investment and social insurance system (education, health care, etc.).

- Part of the efficiency of the economic system is its self-support, i.e. that funds do not have to be deposited into it from sources other than the stipulated levies, but also that funds are not withdrawn from it.

- From the point of view of two types of solidarity (given by the prerequisites of employability at an older age and income solidarity), it is a balanced relationship, because the higher the income solidarity, the lower the efficiency of the system in terms of motivations to extend the period of productive employment and the proper payment of funds to the system according to the established rules.

The pay-as-you-go pension insurance system is exposed to various external influences, including demographic waves, economic cycles, and long-term tendencies of economic development. For example, according to demographic forecasts, the Czech Republic will go through an unfavourable demographic wave in 2035–2055, when the baby boomers will retire. We shall go through this period with a large margin of sustainability of the pension system, if the efficiency of this system is increased. The deficits that arise in the current system are due to gross (and we can wonder if they are intentional) mistakes of the current government, which demotivates the participants in the system, does not solve the problem of payments of high-income self-employed persons, does not solve the problem of excessive wrong setting of early retirements, and has given up on a real reform of the pension system.

3. MATERIALS REVIEW OF SELECTED LITERATURE RELATED TO THE TOPIC

In the past ten years, six papers on the issue of the pension system have been published in the journal Political Economy.

The most recently published paper (Zubíková, Švejnová-Höesová, Chytil 2021) focuses directly on the most important thing – *"support for the employment of people who have already reached the retirement age"* and under this prism identifies and analyses the determinants that affect the level of participation of older people in the labour market, with the aim of subsequently setting employment policy focused on older people according to the intensity of the influence of these determinants. who voluntarily decide to continue their working lives into retirement age (ibid, p. 170). At the same time, they mention in a very subtle way that not only is the theoretical literature on this issue not very numerous, but they point out, with prognostic foresight, that the absence of this issue applies even more to the public debate of economic policymakers (ibid, p. 170). The authors focused their attention on three determinants: pension expenditure, the number of people with tertiary education, and health status. They come to fairly accurate conclusions when it comes to the wrong setting of early retirements. The fact that they do not define what constitutes an insured event in the pension system, and consequently what determines the effectiveness of the pension system, does not allow them to formulate more specific recommendations for setting up the pension insurance system. The treatise contains very well analysed material with beneficial comparisons and recommendations. At the end of the reflection of this treatise, it is worth mentioning that it is conceptually based on the pioneering work of Loužek (2014) working at the same workplace. His monograph is focused on the use of the possibilities of extending the period of gainful employment of older people. It concludes that older people need to be encouraged to continue their economic activity at a later age and formulates recommendations that have unfortunately not been sufficiently used. His overview of professions that are performed at an older age or for life (Loužek 2014, pp. 94-95) is interesting.

The second treatise (Fiala, Langhamrová 2014) analyses demographic data and derives a projection from them, which is, however, also an example of where insufficiently conceptually grasped and grounded research leads. Already at the beginning of the article, when formulating the goal, the authors make the mistake of excluding the most important issue from the centre of attention: *"The aim of this article is to carry out model calculations of the development of income and expenditure of the pension system in the Czech Republic on the basis of the latest demographic projection and taking into account the expected permanent increase in the retirement age* (p. 232)*."* The problem is that they skipped both the definition of a pension scheme and the claims in that system. Changing the ratio between those who contribute to the pension system and those who benefit from it is linked to an increase in the period of employment. However, this can be enforced by law or, on the contrary, voluntary, based on the motivations of all involved, which are mutually exclusive paths. The problem that the logic of the article runs into as a result of this is how to estimate the number of people employed at a certain age. To this end, the authors cite a table on p. 235 showing the estimated employment rates as a percentage: Age 65-69: males 70.0%, females 65%; Age 70-74: male 65.0%, female 60%. The source is stated as a source up to 60–55 years of the LFS CZSO, as well as *"own assumptions"*. It is one of the critical points of the treatise. On the one hand, the estimates of the percentages of those age categories in question (over 65 years of age) are given without specifying the methodology or at least the method of estimation, and on the other hand, unlike the previously analysed treatise (Zubíková, Švejnová-Höesová, Chytil 2021), there is no consideration at all of how the motivations of the participants can support the extension of the period of gainful employment.

The third paper (Lakotová 2021) deals with the issue of sustainability of pension systems in the EU in terms of demographic effects. For analysis, it uses synthetic indicators that integrate the balance of the pension system into the overall financial balance and examine the evolution of fiscal costs due to demographic and GDP developments. Such an analysis is suitable for a good pension system, but in some cases it is misleading. Methodologically, it is more appropriate to start with a model that is based on the principle of equivalence and only then examine the impacts on the fiscal burden, or potential fiscal revenues associated with demographic development. Even in this treatise, there is a lack of a sufficient conceptual grasp of the issue. In some cases, it reaches inaccurate conclusions, e.g. regarding the Austrian pension system, the stability of which is based precisely on its incentive based on the principle of equivalence. In formulating his conclusions (which contain elements beyond the scope of the analysis carried out), he states very precisely: *"Sustainability can be further improved by raising the retirement age. However, a possible increase in early retirement remains a risk. Alternatively, there may also be a problem with unemployment among the elderly, which would result in an increase in the cost of social benefits* (p. 61)*'. "According to this conclusion, policy solutions to the fiscal impacts of population ageing should therefore focus primarily on the issue of ageing people, e.g. by increasing their motivation to participate in the labour market beyond retirement age.* (p. 65)*."* This is the conclusion that should be the starting point for the solution of the pension system, and theoretical tools should be subordinated to the problem formulated in this way.

The fourth essay (Sixta, Langhamrová 2016) begins with a somewhat misleading statement: *"From a macroeconomic point of view, the choice of the pension system is not the most important issue, as it lies primarily in the ratio between the economically active and inactive population. To estimate liabilities to current and future pensioners, the pension scheme method is used, which is a modern tool of economic statistics, theoretically framed by the national accounting system. The use of this method proves that the liabilities to retired people will be the same, regardless of the type of pension scheme* (p. 592)*.'* It is possible to understand what the authors wanted to say – that it is necessary to start from the possibilities of meeting the obligations that arise in the pension system. However, the possibility of meeting these obligations depends very substantially on how effective the pension system is in terms of incentives to extend the period of gainful employment of its clients, including in terms of motivating those who can contribute to extending this period with their productive services. As a basic framework, their analysis using pension schemes of intergenerational flows is beneficial, but too much "perspective" closes the way for the authors to show a realistic path to the reform of the pension system. A positive element of this paper is that it is reminiscent of one of the best earlier analyses (Janíček, Tsharakyan 2013). An error at the beginning of the reflection of this paper (Sixta, Langhamrová 2016) is then reflected in strategically erroneous conclusions, see e.g.: *"The question of the sustainability of the pension system is very uncertain. In addition to the level of pension liabilities, the demographic outlook is not very positive either, and there are efforts to re-cap the retirement age at 65 years* (p. 605)*."* In our conditions, the 65-year age cap does not go against the sustainability of the system but is one of the main prerequisites for the sustainability of the pension system, because it is on this basis that the incentive role of the pension system to voluntarily extend the period of employment can be increased.

The fifth treatise (Brabec, Kubelková 2015) is not directly related to the issue we are dealing with. In it, the authors accurately and correctly calculated how huge deficits our pension system would have if it were transferred from a pay-as-you-go form to a funded one.

The last, sixth treatise (Pastoráková, Brokešová, Péliová 2017) is also only marginally related to the issue we are dealing with. In a stimulating way, it examines investment or savings forms of additional security for a dignified life in the post-productive age.

If we summarize the findings of the analysis of the six treatises, none of them is sufficiently grounded in a proper definition of the terms. Skipping the clarification of the issue through a precise definition of terms is associated with the risk of overlooking the most important thing, which to a greater or lesser extent affected the individual contributions and diverted the focus on the issue of finding ways to increase the motivational role of the pension system in order to extend the period of gainful employment of its clients. It is on this basis that it is necessary to design a real and forward-looking reform of the pension system.

4. THE IMPLICATIONS OF SOLIDARITY IN RELATION TO THE CONFIGURATION OF THE PILLARS OF THE PENSION SYSTEM

Solidarity in the pension system has several problematic implications, because if it is not covered by general taxation, it reduces the replacement ratio and the level of equivalence for a proportion of participants – usually those with higher incomes and those who were not in a social situation covered by solidarity in social insurance. Indeed, part of the premiums paid is used to cover defined social situations and reduces the equivalent link between premiums paid and earnings. On the other hand, in the pension system, it is necessary to address the situation of low-income citizens whose earnings are not sufficient to be transferred to a pension that would ensure an adequate standard of living. In addition, it is advisable to compensate recognised social situations, i.e. incapacity for work, unemployment and childcare in social insurance.

The current configuration of social insurance is based on reduction thresholds (income thresholds that reduce the level of pensions), which makes Czech compulsory pensions approximately two-thirds solidarity-based. We must realize that the reduction limits were not originally present in social pension insurance and, in principle, do not have to be introduced into social pension insurance at all, which means that benefits are (almost) fully based on earnings. Nevertheless, the Czech pension system, like the American social security system, uses these limits to increase the internal pension solidarity of participants with higher and lower earnings.

When it comes to the level of solidarity in pension systems, we can rely on three basic philosophies (OECD, 2018):

1. We can treat the pension as a universal equal benefit available to every citizen reaching retirement age who has the same or similar basic needs and design the compulsory part of the pension system according to this principle. The result will be a high progressivity index (close to 100 – for example, New Zealand or the United Kingdom according to OECD tables).
2. We can take the pension as a percentage of an individual's salary during a working career (earnings-based pension) and take full advantage of the equivalent principles of social insurance. The result will be a very low progressivity index (near 0, for example, Sweden or Finland).
3. We can use some combination of these approaches, but there is a potential problem with comprehensibility for participants and their behaviour within the system. Most people understand the principle of income tax as non-equivalent payments to the state budget, some people also understand the principle of social insurance as the principle of risk sharing with general participation in events that can happen to anyone (for example, old age). This leads to the widespread use of Social Security, but when the level of Social Security reduction thresholds is very high, participants begin to refuse or reduce Social Security participation whenever they have the opportunity to do so. This is the case, among other things, of self-employed persons, who have even been informed by the Ministry of Labour and Social Affairs of the Czech Republic that their expected pensions will be low if they do not contribute sufficiently, but most of them pay only the necessary minimum into the system. What is behind it? Some of them really do not have enough funds, and (probably a larger) part just save money aside in standard savings products or even investment products, hoping to build up some kind of capital buffer while working. They plan to use this individual reserve only when they get older, which is in most cases short-sighted behaviour. When it comes to relying on self-insurance; Experience from OECD countries shows that in many cases this approach does not lead to adequate pension coverage and balancing of consumption, as well as to the fulfilment of other functions of the pension system.

Therefore, especially in the Czech environment, where participants can somewhat optimize their mandatory payments to the system, it is appropriate to design a part of social pension insurance so that the level of wages is reflected in the level of the pension (a high level of equivalence typical for social insurance). This is in line with the recommendations dividing the state-guaranteed pension scheme into a basic solidarity pension financed by general taxes and a merit insurance pension financed by social insurance, summarised in the member's old-age pension, of course. As the available analyses show, this is a suitable way forward for the Czech environment. It requires a technical reform of the current first pillar in terms of its division into equal and insurance pensions, which will result in the following changes: (Vostatek, 2016)

- There will be a part of the pension system that will be financed by general taxation, so that social insurance will no longer be the only source of compulsory pension funding.
- This will significantly reduce social security contributions and it will be appropriate and possible to strengthen progressive income taxation.
- Solidarity will be transferred primarily to this tax-funded pillar, while the social insurance pillar will primarily include compensation for periods of parenthood, unemployment and illness. Even these can be transferred to virtual pension accounts from the state budget, if we want to follow the Swedish extreme example of full equivalence in the NDC system, and partly also in the Austrian pension system.

This division can also help to address the consequences of the demographic developments described below. Since part of the pensions will be financed directly from general taxation, social insurance imbalances will be smaller, and the rate can be adjusted as needed. This does not reduce the fiscal importance of the entire pension system and the expected deficits, but shifts the burden partly to general taxation, which is a more fiscally robust resource than social insurance linked to wages and wage costs.

5. PRACTICAL CONTEXTS OF CHANGES IN THE PENSION SYSTEM IN THE CZECH REPUBLIC

We know from the demographic projection that approximately between 2035 and 2055 the pay-as-you-go system will be subject to some temporary pressure, when for its sustainability it will be necessary to achieve an increase in the number of gainfully employed persons of retirement age by almost 20% over 20 years compared to the current situation (with a significant increase in earnings at the same time). This can be achieved with a large margin by a complex of measures that promote:

- Motivation for voluntary individual extension of the period of gainful employment with a gradual loosening of work activities in accordance with mental and physical condition.

- Supporting activities in corporate culture, focus of upbringing, education, health care, etc.

The use of these options would mean for the Czech Republic:

- Moving the economy to a higher level from the point of view of the general direction of the development of society towards the growth of the role of productive services, i.e. services focused on the acquisition, preservation and application of human abilities.

- Strengthening the position in the world and increasing independence from external pressures.

This path was still supported in April 2022 (i.e. two years ago) by the Minister of Labour and Social Affairs M. Jurečka (Bidrmanová, 2022). A detailed analysis was published in the journal Forum of Social Policy by Šulc and Valenčík in 2020, and, in a broader context, Valenčík and Sedláček in the same journal. (Valenčík, Sedláček, 2020).

6. INCENTIVE REDIRECTION OF PART OF THE HEALTH INSURANCE (TAX) REVENUE FROM THE UNIVERSAL TO THE OPTIONAL PART OF THE HEALTH CARE SYSTEM

In the current health insurance system, motivational elements prolonging productive employment, which are a crucial factor in coping with expected demographic developments, are not sufficiently used. At the same time, theoretical knowledge justifies the necessity of maintaining an adequate degree of solidarity in the system and regulation of financial flows, where leaving the allocation of resources to health care entirely to the decision of the individual for several reasons does not lead to the desired results in terms of health policy objectives. This should be considered when setting up health financing.

The public health insurance system in the Czech Republic is based on the collection of health tax supplemented by a transfer from the state budget and the full redistribution of these resources according to cost indices among multiple payers – health insurance companies. It is desirable to maintain this system in the mandatory part of the system, because a reduction in the share of redistribution, or preferential treatment of individual insurance companies in relation to the composition of their insurance pools, leads to cream-skimming, imbalance and subsequent disintegration of the entire system of multiple insurance companies. These tendencies were also clearly demonstrated empirically at the end of the 1990s.

From the point of view of incentive schemes, however, it is possible to modify individual health tax payments for insured persons in accordance with the theory of public finances, because this will primarily affect the total collection going into redistribution, and even this effect can be compensated by additional positive effects resulting from the prolongation of productive employment. From a time perspective, it is advisable to consider persons who have already reached statutory retirement age. This modification is fully in line with the theory of public finances. At the same time, however, it is appropriate to maintain the "earmarking" of these resources for health care, in the form of their mandatory redirection to optional products of health insurance companies providing the services that have already been mentioned. It is clear from the findings of behavioural economics that a mere reduction in the rate without this redirection would not lead to the desired outcome; A large proportion of the insured would not voluntarily use the "saved" money for health care, and therefore the system would not work. It is therefore not a matter of motivating the reduction of compulsory contributions as such; The levy load of the work would remain the same in this case.

For example, it is possible to consider the rate paid by the employee, i.e. 4.5% of the earnings that the employee will achieve if he or she continues to work productively. If we consider the median wage for Q4 2021 of CZK 39,685 (CZSO, 2024), it is CZK 1786 per month, i.e. CZK 21,432 per year. Of course, this amount is different for each employee, depending on their earnings, but if we are not in the universal part of the system, but in the optional part, it is logical that we move to more equivalent, and therefore differentiated, financing schemes.

For that amount, the health insurance company with which the insured person is registered could offer the insured person an optional product of health care and additional services, corresponding to the amount of his income and the corresponding contributions. The design of these products could be individualized or targeted at specific groups of insured persons from a health, professional and income point of view. There would also be an incentive effect in that the consumption of such a product would potentially contribute to the prolongation of the productive application from which such a product would be financed; at the same time, the solidarity component in the form of the payment of the remaining 9 percent, i.e. CZK 3,572 per month, would be retained, i.e. CZK 42,864 per year, which would continue to be paid as a health tax to the universal part of the system.

In the short term, the 4.5 percentage points mentioned above means a shortfall in these funds in the universal part of the system, if we consider making this option available to persons who are already working after reaching the statutory retirement age and who previously paid the full 13.5% of their earnings into the universal part of the system. From the perspective of responsible fiscal policy, this needs to be recognised and considered in the analysis. However, this shortfall in the resources of fiscal space for the health sector can be well addressed or compensated for in several ways.

1. The suggested percentage can be adjusted; If, for example, it would be appropriate to start with a lower percentage (e.g. 2 percentage points) at the start of the system, it will not weaken the logic of the system in any way, only the products provided will be less comprehensive.

2. If the scheme allows the number of economically active persons to increase after reaching the statutory retirement age compared to the baseline, the universal component of the system will receive additional income from the second, solidarity component of the health tax payment for these persons who were no longer economically active (in our case, 9 percentage points).

3. If the positive effects of the products on health become apparent in the longer term, compensation can also be on the side of reducing the expenditure of the universal component of the system (health

insurance companies) on the treatment, often chronic or disabling diseases of older age, or at least delaying them in the sense of a later onset, and thus enabling longer economic activity before their occurrence.

It makes sense to apply this scheme to persons after reaching the statutory retirement age due to the specifics of this social group, or 1-2 years before this age regarding the possibility of early retirement. On the other hand, its extension to younger age groups does not make sense, because it would lead to a modification of the universal component of the system as a whole, which is possibly a topic for other analyses, and there is also a risk of weakening the degree of solidarity in the universal component of the system due to the necessary centralization of funds intended to ensure universally accessible health care. At the same time, the effect referred to in point 2, i.e. an increase in economic activity, would not be present in the lower age groups, as these groups are usually already working and therefore no significant increases can be expected here.

7. RESULTS AND CONCLUSION

The long-term objective of a real pension reform is to enable the transformation of clients' real contributions to the pay-as-you-go pension system into a life annuity based on the principle of equivalence, risk coverage and both types of solidarity. It is not a problem to calculate this transformation in our conditions for those who will live to the age of 65. It's not a problem even start at around 55 years of age.

Reforms can be started in our conditions by creating a "postgraduate superstructure" of the current pay-as-you-go system, which is evidenced by a model and calculations (Mertl, Mihola, Valenčík 2019). Persons who have reached the age of 65 according to the principle that "the more money I put into the system, the more I shall get back in the form of a life annuity (after deducting an appropriately set intragenerational solidarity levy and ensuring the functioning of the risk fund)" could enter it. Later, it would be possible to extend this superstructure towards the lower age and gradually reform the entire system. This is the long-term basis for the follow-up steps:

1. Adopt a set of labour-law measures that will enable the gradual easing of work activities.

2. To motivate health insurance companies and, through them, providers of health and spa services to prolong the physical and mental prerequisites for employability in professional markets. This can be ensured by ensuring that part of the contributions from gainful activity to the health insurance of persons over 65 years of age will remain in the account from which the relevant gainfully employed person will be able to pay for above-standard health care intended specifically for the extension of the period of voluntary productive employment (see chapter above). This will also make each health insurance company interested in providing the services that are in question, including prevention, health monitoring or the provision of spa care.

3. Provide lifelong learning, including certified courses aimed at upgrading skills (professional, communication, self-care for health, etc.).

4. To raise awareness so that a person from childhood thinks about his entire professional career, gradually concretizes the idea of his self-realization.

5. Growth of the role of creative intergenerational teams in the economy as carriers of innovation potential and as an area of economically highly effective employment of older people.

In conclusion, the problem of the sustainability of the pay-as-you-go pension system can be solved in the above-mentioned way, because within 20 years it is possible to achieve an increase in the number of gainfully employed persons of retirement age converted to full-time equivalents by more than 20% compared to the current situation (with a significant increase in earnings). To do this, it is necessary to consider the significant positive effects in the tax system. At the same time, there will be a transition to a society whose economy is based on productive services.

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