

RETIREMENT POLICY CHANGES FOR WORKERS IN ARDUOUS AND HAZARDOUS JOBS: COMPARATIVE OVERVIEW AND LESSONS FOR CROATIA

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It is considered that engagement in harsh occupations negatively affects health and longevity. Therefore, in addition to benefits in respect of accidents at work and occupational diseases, many countries adopted more favourable pension rules for such workers (e.g. right to old-age pension at an earlier age or more advantageous pension accrual rates). However, the scope of such jobs or the actual level of their arduousness and hazardousness has been changing over time due to technological advancements and development of health and safety measures. Hence, for many occupations there is justification for a reduction of the former generosity. The aim of this paper is to give a comparative overview and analysis of pension rules, retirement patterns and policy changes for workers in hazardous and arduous jobs. Special attention is given to the situation in Croatia. Based on legal analyses and data research, the author proposes retirement policy changes that would strike a better balance between, on the one hand, the general need to prolong working lives and, on the other hand, the specific individual needs for early labour market exits for really frail workers.

Key words: pensions, retirement policy, arduous jobs, strenuous jobs, hazardous jobs, Croatia

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1. INTRODUCTION¹

It is considered that engagement in harsh occupations negatively affects health and longevity. Therefore, in addition to benefits in respect of accidents at work and occupational diseases, during the 20. century many countries adopted more favourable pension rules for such workers (e.g. the right to old-age pension at an earlier age or more advantageous pension accrual rates). However, the scope of such jobs or the actual level of their arduousness (strenuousness) and hazardousness (dangerousness) has been changing over time due to technological advancements and the development of health and safety measures. Some new jobs involving risks may have emerged (e.g. jobs involving optical radiation, electromagnetic fields).² Hence, the justification for and the extent of more favourable rules has for many jobs and sectors nowadays become questionable. In addition, in the 21. century many pension systems are struggling with the problems of sustainability and adequacy, due to demographic changes³, working environment modifications⁴ and pension policy mismanagement.⁵ Therefore, a policy shift towards a prolongation of working lives seems to be a good solution. Usually this shift puts more pressure on individuals through retirement age increases, tightening the link between contributions, life expectancy and benefits, as well as rigidifying various forms of early exit options (early old-age pensions, disability pensions and special arrangements for work-

¹ This paper is a result of research done within the research project “New Croatian Legal System”, Faculty of Law, University of Zagreb (2016). Some parts of the research have been used for an ESPN thematic report (Vukorepa, I., *ESPN Thematic Report on Retirement Regimes for Workers in Arduous or Hazardous Jobs: Croatia*, European Social Protection Network (ESPN), Brussels: European Commission, 2016, <http://ec.europa.eu/social/BlobServlet?docId=16200&langId=en>).

² Natalie, D.; Spasova, S.; Vanhercke, B., *Retirement regimes for workers in arduous or hazardous jobs in Europe: A study of national policies*, European Social Protection Network (ESPN), Brussels: European Commission, 2016, <http://ec.europa.eu/social/main.jsp?catId=1135&intPageId=3588> (15 November 2016), p. 13.

³ E.g. life expectancy increases, lower birth rates and aging societies.

⁴ E.g. automatisisation and digitalisation, globalisation, various forms of crises, more non-standard forms of employment in the era of the sharing economy and the shadow economy.

⁵ For pension policy mismanagement problems in Croatia see: Vukorepa, I., *Lost between Sustainability and Adequacy: Critical Analysis of the Croatian Pension System's Parametric Reform*, *Revija za socijalnu politiku* (Croatian Journal of Social Policy), Vol. 22, No. 3, 2015, pp. 279 – 308, <http://www.rsp.hr/ojs2/index.php/rsp/article/view/1307> (24 December 2015).

ers in harsh occupations).⁶ Nevertheless, there is a need to strike the right balance between, on the one hand, the general need to prolong working lives and, on the other hand, the specific individual needs and working abilities. Thus, a more holistic approach is needed in the form of measures towards actual workability and employability of older workers and workers in harsh occupations.

Pursuant to the ESPN⁷ study on national policies conducted in 35 European countries, in the period 2015-2016, workers in arduous and hazardous jobs (hereinafter: WAHJ) represent between 1% and 4% of the workforce, while their share among new pensioners is higher, between 5% and 8%.⁸ Over the past decade, in many countries there is a noticeable decrease in the number of WAHJ.⁹ Surprisingly, there is quite the opposite trend in Croatia. From 2009 to 2015 their share increased from 1.7% to 2.1%.¹⁰ The increase is probably even bigger if one would take into account the employees in the public sector, such as the police, the army etc.¹¹ Pursuant to current legislation, in Croatia there are hundreds of jobs and occupations that are considered to be arduous and hazardous.¹² They enjoy double advantages within the general pension system; first in the form of accrual of additional years/months of service due to increased pension insurance periods; second, there are rules on lower retirement age with the right to a full pension. Since 2013 the Croatian Government has been planning changes to the preferential pension treatment, with a view to reducing the number of jobs and occupations classified as arduous and hazardous, as well as reviewing the right of WAHJ to an earlier retirement age.¹³ However, no legislative amendments have been adopted to date.

⁶ On all the various pension reform trends within the EU see: European Commission, *The 2015 Pension Adequacy Report: current and future income adequacy in old age in the EU*, Volume I, European Union, Luxembourg, 2015, pp. 173 – 192.

⁷ European Social Policy Network, <http://ec.europa.eu/social/main.jsp?catId=1135&langId=en>.

⁸ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), p. 6.

⁹ *Ibid.*, p. 14.

¹⁰ The author's calculations are based on the data obtained from the Croatian Pension Insurance Institute. For more details see table 1 in chapter 4.1. *Overview of situation in Croatia* below.

¹¹ They have not been included in this research, because comparative data also exclude all workers caring out a service of a public interest.

¹² For more details see below 4.1. *Overview of situation in Croatia*.

¹³ See: Croatian Government, *Economic Programme of Croatia*, April 2013, pp. 47 – 48, http://ec.europa.eu/europe2020/pdf/nd/ep2013_croatia_en.pdf (3 May 2016); Croatian Government, *National Reform Programme 2016*, April 2016, adopted on 28 April 2016, p. 39, <https://vlada.gov.hr/sjednice/17-sjednica-vlade-republike-hrvatske-18896/18896> (3 May 2016).

In the light of the need for a reform, the aim of this paper is to give a comparative overview and analysis of the pension rules, retirement patterns and policy changes for WAHJ. Special attention is given to the situation in Croatia. The paper consists of several chapters. After this introductory part, the second chapter addresses some theoretical and fairness considerations, as well as definition problems. In the third chapter the author gives a comparative overview of the special pension rules and retirement patterns for WAHJ, as well as of recent policy shifts. The fourth chapter deals with the same issues, focusing on Croatia. The author provides detailed legal analyses (status as of 31 October 2016) and evaluates research findings for the period between 2009 and 2015. In the concluding chapter, the author detects the main problems and proposes retirement policy changes that would strike a better balance between, on the one hand, the general need to prolong working lives and, on the other hand, the specific individual needs for early labour market exits for really frail workers.

2. THEORETICAL AND FAIRNESS CONSIDERATIONS

Although half of OECD states neither formally recognise WAHJ nor treat them more favourably within their public pension systems (e.g. Australia, Denmark, Japan, Netherlands, Switzerland, Sweden, UK, USA)¹⁴, many other OECD and EU countries have special pension provisions for WAHJ.¹⁵ There is an ongoing debate about their justification and fairness¹⁶, which, as it seems to me, greatly depends on the social, political and economic context, the same one that shaped them under past circumstances.

Historical justification for special treatment of WAHJ has been the argument of “merit”, because engagement in harsh occupations impairs health, reduces life expectancy and increases mortality.¹⁷ So, we can say that the economic rationale behind it was to compensate for insufficient health and safety

¹⁴ Some of them provide preferential treatment through collective agreements within private occupation pension schemes. Pursuant to data available in: Zaidi, A.; Whitehouse E. E., *Should Pension Systems Recognise “Hazardous and Arduous Work”?*, OECD Social, Employment and Migration Working Papers, No. 91, OECD Publishing, 2009, <http://dx.doi.org/10.1787/221835736557> (15 April 2016), p. 13.

¹⁵ For more see: *ibid.* See also Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), p. 12.

¹⁶ This is corroborated by the fact that recently there have been reports within OECD and EU on these issues, as provided in the above mentioned studies.

¹⁷ Zaidi, Whitehouse, *op. cit.* (fn. 14), pp. 4, 6 – 8.

measures. This might be a valid argument for mortality and health risk-bearing occupations, i.e. inherently dangerous jobs that shorten life expectancy, or strenuous occupations that cannot be performed at an older age. However, in addition to these harsh occupations, preferential treatment rules sometimes have a broader scope due to cultural reasons (e.g. in the case of musicians), political reasons wanting to give a boost to employment in specific sectors (e.g. school teachers)¹⁸, or solidarity reasons to compensate for physical deficiencies not necessarily related to work injuries (e.g. in Croatia blind workers, workers with multiple sclerosis, poliomyelitis etc.).

An especially sensitive issue is the problem of defining what qualifies as hazardous or arduous work. Considering the examples provided by various countries, lists vary largely. There is no clear cut definition. However, a common feature is that these jobs are usually linked to organisational (long working hours, night work), physical (noisy environment), biological or chemical factors that cause physical and/or mental hardships resulting in one or several consequences: health hardships, difficulties in continuing to carry out the same job or remain in the same occupation, loss of productivity or premature mortality.¹⁹ Although many countries list harsh jobs and occupations (either in their national legislation or collective agreements), some countries also apply quantitative tools in measuring arduous conditions related to various factors such as heaviness, energy expenditure, temperature and pressure exposure (e.g. Austria, Belgium, France, Luxembourg, Slovenia and Slovakia).²⁰ The problem is further compounded by the fact that the scope of arduous and hazardous jobs can change over time due to technological advancements and development of health and safety measures. So the argument of “merit” might no longer be valid for many jobs which have become less demanding or harsh. Nevertheless, even when “merit” cannot be argued, it still might be very difficult to withdraw or tighten existing special treatment. A reason for this might be that, in the meantime, the special treatment has most probably started to be perceived as a “right” rather than a deserved merit due to actual health and mortality risks. Hence, in reality the political problem of the will and strength to overturn legacies of the past comes into the foreground. This is expected to be the main problem in the implementation of the planned reform in Croatia.

¹⁸ *Ibid.*, p. 8.

¹⁹ *Ibid.*, pp. 6, 14 – 16.

²⁰ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), p. 13.

Compensation for jobs and occupations involving risks can be afforded either immediately as a wage premium or at a later stage as a deferred wage in the form of early retirement with the right to a full pension and /or more advantageous pension accrual rates. If WAHJ receive wage premiums along with the preferential pension benefits, then they benefit multiply.²¹ It could be argued that one cannot speak of multiple advantages if preferential pension treatment is funded by additional contributions (as is usually the case). However, in my opinion, the crucial question is whether additional contributions are really sufficient to cover all of the increased pension expenses for WAHJ. If insufficient, then we can speak of public subsidies for these sectors. In addition, there are concerns that pension privileges can introduce distortions on the labour market wage-setting mechanism²², and that they can inhibit genuine market-driven reductions in the size of the harsh sectors.²³ Namely, as rightfully argued by some authors, privileged pension treatment of WAHJ can be an excuse for not doing enough to make jobs less arduous.²⁴

A further problem is the fact that the link between occupations and the premature erosion of working ability and life expectancy is not always straightforward. It depends on the nature of the job, its actual content, working conditions and the duration of exposure to such jobs. It might also depend on our health-related inherited predispositions, race, geographical location, educational level and life-styles.²⁵ An interesting new and important measurement of health and longevity are “healthy life years”, i.e. a measure of disability-free life expectancy.²⁶ It can be a useful measure of working ability, convenient for pension systems retirement age setting. However, for the issue of WAHJ it

²¹ *Ibid.*, p. 8.

²² D’Addio, A. C. *et al.*, *Contribution to the EU Adequacy Report 2015: Interim report on penibilite schemes in EU*, VS/2013/0451 – Project For Assessing Progress towards Adequate, Sustainable and Safe Pension System, OECD, February 2015, p. 32.

²³ For more see: Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 9.

²⁴ D’Addio *et al.*, *op. cit.* (fn. 22), p. 33.

²⁵ For more on various factors that influence longevity see: D’Addio *et al.*, *op. cit.* (fn. 22), pp. 10 – 19. See also: OECD, *Pensions at a Glance 2011: Retirement-income Systems in OECD and G20 Countries*, OECD Publishing, http://dx.doi.org/10.1787/pension_glance-2011-en (14 May 2012), pp. 19 – 36 and 81 – 100; OECD, *Mortality Assumptions and Longevity Risk Implications for pension funds and annuity providers*, OECD Publishing, 2014, <http://www.oecd.org/daf/fin/private-pensions/mortality-assumptions-and-longevity-risk-9789264222748-en.htm> (1 October 2016).

²⁶ For more explanation and data on Healthy Life Years see: http://ec.europa.eu/health/indicators/healthy_life_years/hly_en (10 September 2016).

is important to mention the fact that the correlation between longevity and occupation is not perfect. Longevity is private information which depends on various factors (e.g. genetic inheritance and socio-economic conditions), while occupation is observable.²⁷ Hence, Pestieau and Racionero have studied the optimality of pension policies that distinguishes the retirement age by occupation in an asymmetric information framework.²⁸ They observed that long-lived workers in harsh occupations gain from being mixed-up with a large number of short-lived workers, and that the short-lived in safe occupations lose from being mixed-up with a large number of long-lived workers.²⁹ Their results suggest that special pension provisions should be sufficiently flexible so as to separate long-lived and short-lived individuals when different longevity types coexist within each occupation, as well as to accommodate changes in circumstances when an occupation becomes safer.³⁰

This brings me to the next justification dilemma: why do we need more favourable pension rules if we have alternative mechanisms? For example, most countries have well developed alternative social security measures (such as sickness benefits, disability benefits, and benefits related to work injuries and occupational diseases).³¹ In addition, why are we deadening the residual work potential of WAHJ by their preferential early retirement instead of strengthening their workability by active labour market policies (such as vocational reorientation and reactivation)? Hence, I agree with Zaidi and Whitehouse, who suggest that “the choice should be between different sorts of jobs and not between work and retirement”.³²

²⁷ Pestieau, P.; Racionero, M., *Harsh occupations, life expectancy and social security*, Economic Modelling, Vol. 58, 2016, pp. 194 – 195.

²⁸ *Ibid.*, pp. 194 – 202.

²⁹ *Ibid.*, p. 200.

³⁰ *Ibid.*, pp. 201 – 202.

³¹ It must be pointed out that during economic crises and rising unemployment there is noticeable pressure towards increased use of disability and sickness benefits. Hence rehabilitation and work incentive measures are very important. For more see: OECD, *Sickness, Disability and Work: Breaking the Barriers. A synthesis of findings across OECD countries*. OECD Publications, 2010, <http://www.oecd.org/publications/sickness-disability-and-work-breaking-the-barriers-9789264088856-en.htm> (15 May 2016).

³² Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 9.

3. A COMPARATIVE OVERVIEW OF POLICY MIXES

As indicated above, the policy approaches towards WAHJ vary across different countries and time. There are organisational differences as well as variances regarding the end-of-career options and the level of preferential rights accorded by pension rules. Policy shifts from early labour market exits towards a prolongation of working lives have been growing in importance.

3.1. An organisational overview

Countries have very different approaches towards WAHJ. First we can differentiate between countries that formally recognise WAHJ (e.g. Austria, Bulgaria, Croatia, Estonia, France, Finland, Greece, Italy, Spain, Romania etc.) and those that do not recognise them (e.g. Australia, Denmark, Japan, Netherlands, Switzerland, Sweden, UK, USA). Closely related to this is also their normative approach: there are countries that tackle the problem and provide definitions in national legislation (e.g. Croatia, Romania, Slovakia, Slovenia), while other states leave it to social partners in collective agreements (Germany, Sweden, Switzerland, Norway).³³ So, even if some countries do not provide special rules within their public systems, early exit pension privileges are sometimes provided within private occupational pension schemes (e.g. UK, USA). Hence, workers who retire early within private schemes can continue working in other safer sectors, and thus combine private pension benefits with earnings.³⁴

Countries that formally recognise WAHJ can be clustered according to the following features:³⁵ 1) countries having special public pension schemes for WAHJ (e.g. Austria, Bulgaria, Spain, France, Norway, Poland, Slovenia), 2) countries providing separate pension rules within the general scheme (e.g. Croatia, Estonia, Spain, Greece, Italy, Romania), 3) countries with a wide scope of WAHJ (e.g. Bulgaria, Croatia, Spain, Greece, Estonia, Romania), 4) countries with a very narrow scope of WAHJ, covering only one or two jobs or occupations (e.g. Cyprus, Hungary, Germany, Norway, Iceland). It has been observed

³³ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), pp. 12 – 13; Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 13.

³⁴ Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 13.

³⁵ List is made pursuant to information provided in OECD and EU comparative reports: Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), pp. 12, 15, 21; Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 13.

that countries with special pension schemes are typically narrower in scope than countries with separate pension rules within a general pension system.

3.2. The end-of-career approach and the features of more favourable pension rules

As already indicated above, health and mortality risk problems related to WAHJ can be dealt with through various social security and labour market policy pathways, such as pensions (old-age, early retirement, partial retirement, and survivorship pension in the case of death), disability benefits, sickness benefits, special benefits related to risks of injury at work and occupational diseases, and active labour market policies (retraining benefits and job counselling).

There are countries that favour the early labour market exit approach (e.g. Bulgaria, Estonia, Croatia, Italy, Poland, Romania, Slovenia, Slovakia), as opposed to countries with measures aimed at a prolongation of working life (e.g. Czech Republic, Denmark, Lithuania, UK, Norway, recently also Hungary). Some countries are combining the two approaches (e.g. Austria, Belgium, Germany, Finland, France, and Netherlands).³⁶

In the context of the early exit approach for WAHJ, there are two most commonly used methods: 1) full retirement at an earlier age, or a disability pension, and 2) higher pension accrual rates for each year of contribution. Pensionable age depends usually on the category of WAHJ and sometimes still on gender (being lower for women due to previous rules).³⁷ Often it is combined with the requirement of career length or contribution records in specific jobs, thus making the privileges proportionate to the exposure to harsh occupations. Typically it takes the form of a “coefficient of reduction in the retirement age” which is multiplied by the number of working years in AHJ. The result is a reduction in the normal retirement age.³⁸ Comparative data suggest that the effective retirement age for WAHJ is on average 3 to 4 years lower than for ordinary workers.³⁹

Another form of special pension treatment is higher pension accrual rates, enabling WAHJ to accumulate a full pension over a reduced number of years

³⁶ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), pp. 14 – 15.

³⁷ *Ibid.*, p. 21.

³⁸ Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 117.

³⁹ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), p. 32.

than is normally required.⁴⁰ Since comparative retirement income data are very incomplete, I will only point to the fact that there are countries whose WAHJ receive higher pension benefits (e.g. Austria, Belgium, Bulgaria, Croatia, Luxemburg, Portugal), as well as countries that provide lower benefits than within the general pension system (e.g. Switzerland, Germany, Italy, Norway, Sweden). Lower pensions are often the result of the application of general benefit accrual rates, instead of preferential ones.⁴¹

Pension privileges for WAHJ are usually financially backed by higher contribution rates. The burden of higher contributions can be borne by workers themselves (e.g. Austria, Slovenia), by their employers (Bulgaria, Croatia), or by the state (e.g. Poland). Sometimes contributions are split (e.g. Portugal). The increased rate of supplementary contributions for WAHJ compared to ordinary workers varies between countries and jobs, ranging from 1.5% to 26%.⁴²

3.3. Policy shifts

Due to aging societies, longevity improvements and pension sustainability problems, during the last decade a general policy shift has been forwarded from a retirement-centred approach towards a work-centred approach. Hence, regarding WAHJ in many countries there has been a tendency towards increasing the effective retirement age, tightening the conditions for access to special provisions for WAHJ, as well as adopting more active labour market measures aimed at activation and retraining.

Many countries have been tightening early exit options and, in parallel, promoting workability and employability (e.g. Austria, Belgium, Switzerland, Germany, Spain, Italy, France, Netherlands, Denmark, Norway, Sweden). Some of them have innovative schemes. For example Austria has replaced its “temporary invalidity benefit”, by two new benefits: “rehabilitation benefit” and “retraining benefit”. Other countries have only taken steps towards tightening early exit options and pension provisions for WAHJ (e.g. Bulgaria, Greece, Poland, Romania, Hungary, Latvia, Lithuania, Portugal, Poland, UK).⁴³

⁴⁰ Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), pp. 22 – 23, 33; Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 117.

⁴¹ Zaidi, Whitehouse, *op. cit.* (fn. 14), p. 117.

⁴² Natalie, Spasova, Vanhercke, *op. cit.* (fn. 2), pp. 24 – 25.

⁴³ *Ibid.*, pp. 17 – 20. For more detailed national reports please see: *ESPN Thematic Reports on retirement regimes for workers in arduous or hazardous jobs*, <http://ec.europa.eu/social/main.jsp?catId=1135&intPageId=3589>.

4. THE CROATIAN APPROACH *DE LEGE LATA*

Since 2013 Croatia has been planning to tighten the rules for WAHJ. However, no legislative measures have been adopted to date. This chapter features a presentation of the current legislative framework (status as of 31 October 2016), describing special pension rules for WAHJ and analysing available data relevant for the future reform.⁴⁴

4.1. Overview of situation in Croatia

In Croatia WAHJ enjoy more favourable treatment within the general pension system.⁴⁵ They have a double advantage in the form of the pension insurance period counted with increased duration, and the right to full retirement at a lower age.⁴⁶ Moreover, during their working lives, some WAHJ may also have been protected by short-time work (*skraćeno radno vrijeme*), i.e. reduced working hours in proportion to the harmful effects of their job (effects that could not have been prevented by the implementation of health and safety measures).⁴⁷

The legislative framework regulating the special pension provisions for WAHJ consists of many laws. The basic law is the Act on Insurance Periods Counted with Increased Duration⁴⁸, which provides the definitions and lists

⁴⁴ Research results have been used by the author in drafting ESPN Thematic Report, see fn. 1.

⁴⁵ For more on the Croatian pension system see: Vukorepa, *op. cit.* (fn. 5).

⁴⁶ Several authors have provided a legal overview and criticism of the current system. For example, see: Turković–Jarža, L., *Pravo na staž osiguranja s povećanim trajanjem (beneficirani staž) (Right to insurance period with increased duration)*, Računovodstvo revizija i financije, No. 11, 2015, pp. 93 – 103; Učur, M., *Propise o stažu osiguranja treba osuvremeniti i usklađivati s pravnom stečevinom Europske unije (Regulations on insurance period with increased duration should be updated and harmonized with the *acquis communautaire*)*, Hrvatska pravna revija, Vol. 12, No. 12, 2012, pp. 57 – 65; Baloković, S., *Stož osiguranja s povećanim trajanjem – institut neprimjeren kombiniranom mirovinskom sustavu (The insurance period with increased duration – Institute inappropriate for mixed pension system)*, Radno pravo, No. 12, 2014, pp. 38 – 52.

⁴⁷ Art. 64 of the Labour Act (Zakon o radu, Narodne novine, No. 93/2014) in connection with Art. 6 of the Act on the Insurance Periods Counted with Increased Duration. Same provision existed in the previous law as well.

⁴⁸ Act on the Insurance Periods Counted with Increased Duration (Zakon o stažu osiguranja s povećanim trajanjem, Narodne novine, Nos. 71/1999, 46/2007, 41/2008, 61/2011).

of jobs in specific sectors, as well as general occupations that are considered to be arduous or hazardous. Article 4 of the Act on Insurance Period Counted with Increased Duration refers to 'jobs particularly difficult and hazardous to health and working ability on which the insurance period is calculated with increased duration'. It defines them as 'workplaces where there are harmful effects on the health and working ability of the employee, despite general and special health and safety protection measures applied'. Further on, the same article lists 92 relevant jobs or groups of jobs in a total of 28 sectors.⁴⁹ Article 5 of the same Act lists 11 groups of occupations in which physiological function declines with age. These are: 1) dancer of classical ballet and modern dance, ballet master, 2) opera singer-soloist, 3) dancer-singer in professional ensembles of folk dance, 4) airplane pilot and helicopter pilot, 5) teacher of motorized aircraft and gliders, 6) skydiving teacher, 7) radio operator (pilot), flight navigator and aircraft mechanic (flier), 8) diver, diver for sponges and corals and diving instructor, 9) various types of air traffic controllers, 10) chimney cleaner and chimney sweep master (cleaning high factory chimneys), and 11) air traffic tower controller with valid authorization. Additions to or removals from the list of arduous or hazardous jobs can be proposed by organisations including employers, trade unions and the Croatian Pension Insurance Institute (CPII). Decisions are based upon technical documentation and an expert opinion provided by the Croatian Institute of Health Protection and Safety at Work.

Apart from this general regulation, there are many other laws prescribing jobs considered to be arduous or hazardous, for which the reckonable pension insurance period is enhanced. These include: 1) ship crew members⁵⁰, 2)

⁴⁹ Coal mines, steel mills, production of lead-acid batteries, production of ferroalloys and electrodes, foundries, production of non-metals, refractory materials, glass production, shipbuilding, oil production, production of fertilizers, production of building materials, construction industry, geological and mining research, rail and road transport, communal activities (household chimney cleaners), forestry, maritime fishing, processing hemp and jute, production of polyvinyl chloride, production and processing of rubber compounds, textile industry, processing of heavy machinery parts and machine tools, agricultural aviation, installation of industrial plants, leather-processing industry, production of rock wool, and quarrying.

⁵⁰ Art. 129a of the Maritime Code (*Pomorski zakonik*, Narodne novine, Nos. 181/04, 76/07, 146, 08, 61/11, 56/13, 26/15).

workers exposed to asbestos⁵¹, 3) workers in de-mining⁵², and 4) firefighters (professionals and volunteers).⁵³ Accordingly, they have all been included in this research.

It is important to note that Article 7 of the Act on Insurance Periods Counted with Increased Duration also covers people with certain disabilities, such as blind people, people with multiple sclerosis, poliomyelitis etc. However, they are omitted from this research since they have special rights on the basis of their disability and not as WAHJ. Furthermore, people employed in services of public interest have also been excluded from the research (e.g. military personnel, police officers and some other authorized officials, such as customs officials, judges adjudicating in corruption and organized crime cases, high officials of the Office for Combating Corruption and Organized Crime). There are several reasons for this omission. First, despite the fact that all of them fall under the privileged regime pursuant to special laws, only some of them perform strenuous and hazardous jobs. Second, comparative data on WAHJ also exclude all workers carrying out a service of public interest. Third, their number is not fully known to the CPII during the insurance phase (because special ministries keep track of it); CPII obtains their number only afterwards, when calculating the pension benefit.

In contrast to many other countries with a decreasing trend, in Croatia there has been an upward trend in the number of WAHJ. Currently, WAHJ make up around 2.2% of the total number of insurees within the pensions system. From the end of 2009 to the end of 2015 their number increased by 13.77%, while in the same period the total number of insurees dropped by 7.62%. At the end of 2015 there were 30,062 WAHJ, out of a total of 1,413,637 insurees (for more details see the following table).

⁵¹ Act on the Conditions for Entitlement to Old-age Pension for Workers Occupationally Exposed to Asbestos (Zakon o uvjetima za stjecanje prava na starosnu mirovinu radnika profesionalno izloženih azbestu, Narodne novine, Nos. 79/07, 149/09, 139/10).

⁵² Act on Anti-Mine Action (Zakon o protuminskom djelovanju, Narodne novine, No. 110/15), as well as the previous Act on Humanitarian De-mining (Zakonu o humanitarnom razminiranju, Narodne novine, Nos. 153/05, 63/07, 152/08) and the Act on Special Pension Rights for Employees in De-mining (Zakon o posebnim pravima iz mirovinskog osiguranja zaposlenika na poslovima razminiranja, Narodne novine, Nos. 153/2005, 152/2008).

⁵³ Art. 25 of the Act on Firefighting (Zakon o vatrogastvu, Narodne novine, Nos. 106/99, 117/01, 36/02, 96/03, 139/04, 174/04, 38/09, 80/10).

Table 1: Number of WAHJ insurees compared with total number of insurees⁵⁴

Year (end of period)	Number of WAHJ insurees	Total number of insurees	% of WAHJ in the total number of insurees
2009	26,423	1,530,233	1,727%
2010	26,889	1,475,363	1,823%
2011	28,470	1,468,133	1,939%
2012	29,550	1,432,740	2,062%
2013	29,726	1,400,631	2,122%
2014	29,624	1,397,400	2,120%
2015	30,062	1,413,637	2,127%

Since 2013 the Government has been planning changes to the preferential pension treatment of WAHJ because many jobs have become more automated and less arduous.⁵⁵ So far, experts in the Croatian Institute for Health Protection and Safety at Work have reviewed more than 100 jobs and occupations. Preliminary results suggest that almost half of these should be removed from the special regime. Legislative amendments have been planned for the end of 2016, with a view to reducing the number of jobs and occupations classified as arduous and hazardous, as well as to review the right of workers in such jobs to a lower retirement age.⁵⁶ However, the time schedule has been postponed due to early parliamentary elections and Government change. Furthermore, since the current twofold preferential system has been in place for a very long time (in its current form since 1998, but based largely on the regime from 1976)⁵⁷, it is reasonable to expect that the reform will be disputed by key interest groups and social partners.

⁵⁴ Source: Author's calculations based on data obtained from CPII (special request by the author, data were obtained from Ms. Vesna Dejanović, CPII). The other data on the total number of insurees were obtained from the CPII Statistical Information [data files from 2003 onwards], available from the CPII website: <http://www.mirovinsko.hr/default.aspx?ID=723>. Note: People employed in services of public interest (police, military personnel etc.) are excluded from the WAHJ figure.

⁵⁵ Croatian Government, *Economic Programme of Croatia*, April 2013, pp. 47 – 48, http://ec.europa.eu/europe2020/pdf/nd/ep2013_croatia_en.pdf (3 May 2016).

⁵⁶ Croatian Government, *National Reform Programme 2016*, April 2016, adopted on 28 April 2016, p. 39; Plan on Normative Activities in 2016. All available at <https://vlada.gov.hr/sjednice/17-sjednica-vlade-republike-hrvatske-18896/18896> (3 May 2016).

⁵⁷ Baloković, *op. cit.* (fn. 46), pp. 40 – 41.

4.2. Pension rules

In Croatia, WAHJ are treated under separate pension rules with a double advantage. Firstly, they have a right to increased pension insurance period (imputed extra years/months of service) on which pension benefit is calculated. The maximum pension insurance period within a year is normally 12 months, whereas for WAHJ each 12-month contribution period is counted as 14, 15, 16 or 18 months, depending on the occupation performed and the working conditions encountered (giving an extension coefficient of 1.1666, 1.25, 1.333 or 1.5). A *pro-rata* enhancement applies to shorter service periods. This has the effect of a higher pension accrual rate for each period of contribution, since the amount of pension benefit is calculated also on the basis of the pension insurance period.⁵⁸ Most WAHJ fall under the category of insureds whose extension coefficient is 1.25 (for more details see the following table).

Table 2: *Number of WAHJ insureds, by year and amount of extension*⁵⁹

Amount of extension in months		12 as 14	12 as 15	12 as 16	12 as 18	Total
Extension coefficient (<i>de facto</i>)		1.1666	1.2500	1.3333	1.5000	
Year (end of period)	2009	7,692	14,065	3,750	916	26,423
	2010	7,792	14,505	3,632	960	26,889
	2011	7,729	16,045	3,657	1,039	28,470
	2012	7,298	16,415	3,498	2,339	29,550
	2013	7,431	16,791	3,276	2,228	29,726
	2014	7,462	17,079	2,926	2,157	29,624
	2015	7,235	17,786	2,869	2,172	30,062

The second advantage is a lower qualifying age for the old-age pension (a type of risk-related early retirement). Currently, the statutory pension age is 65 for men (subject to a minimum 15 years qualifying period), while the regular early-retirement window is five years (requiring a much longer qualifying period, of 35 years). For women the retirement age is gradually being equalised with that for men, by three months per year during the 2011-2030 transitional

⁵⁸ For more see: Vukorepa, *op. cit.* (fn. 5), p. 289.

⁵⁹ Source: Author's calculations based on data obtained from CPII (Based on a special request by the author, data on WAHJ were obtained from the CPII (Ms. Vesna Dejanović). Note: People employed in services of public interest (police etc.) are excluded from WAHJ figure.

period.⁶⁰ For WAHJ the statutory pension age is lower, depending on two elements: 1) the years worked in hazardous jobs and arduous occupations, and 2) the degree of insurance period extension.⁶¹ Hence, the pension age for WAHJ is reduced as follows:

- by one year for every six years of work in jobs or professions in which the insurance period of 12 months is counted as 14 months,
- by one year for every five years of work in jobs or occupations in which the insurance period of 12 months is counted as 15 months,
- by one year for every four years of work in jobs or professions in which the insurance period of 12 months is counted as 16 months, and
- by one year for every three years of work in jobs or professions in which the insurance period of 12 months is counted as 18 months.

Significantly lower pension ages have been prescribed for some specific jobs. Firstly, for ship crew members it is 60 years of age, provided the person has achieved at least 15 years of service on board as a crew member. Secondly, for workers in de-mining there is no age limit, provided they have a pension insurance period of at least 25 years, with minimum eight years spent in de-mining, related hazardous jobs or in service during the Homeland War.⁶² Thirdly, for workers who were directly or indirectly exposed to asbestos there are specific provisions. Persons with asbestosis have immediate entitlement to a pension, regardless of age or the number of qualifying years. For other workers it depends on how long they have been working in jobs exposed to asbestos and on the number of qualifying years (hence the pension age can vary from 45 to 48 for women and from 50 to 53 for men). It should be noted that there are no more workers registered as professionally exposed to asbestos; all of the current retirees who were exposed to asbestos, a total of 809, are already beneficiaries of old-age retirement benefits. However, the average duration of their pension benefit payment is very short, only around five years.⁶³

Apart from these early exits, WAHJ (as well as all other insurees within the mandatory pension system in Croatia) are entitled to improved rights if death

⁶⁰ The law currently prescribes a gradual increase of the retirement age to 67, and of the early-retirement age to 62, during the period 2031-2038 (Arts. 33 and 34 of the Pension Insurance Act). However, the Government plan from 2016 envisages an accelerated increase during the period 2024-2027 (Croatian Government, *op. cit.* (fn. 56), p. 49.

⁶¹ Art. 8(2) of the Act on the Insurance Periods Counted with Increased Duration.

⁶² Art. 2 of the Act on Special Pension Rights for Employees in De-mining.

⁶³ Based on data at 13 May 2016 obtained from the CPII on 18 May 2016.

and disability are caused by an accident at work or by an occupational disease. In these cases, disability pension and other benefits are calculated assuming a minimum 40 years insurance period, regardless of the actual years of service.⁶⁴

Regarding funding, the regular pension insurance contribution rate for the mandatory pension system is 20%, paid out of employee wages (or out of the pension insurance base for the self-employed).⁶⁵ People covered only by the pay-as-you-go (PAYG) scheme pay all contributions into the first pillar, while people insured under the two-tier mandatory scheme (the PAYG defined-benefits pillar and the funded defined-contributions pillar) pay 15% into the first pillar and 5% into the second pillar.⁶⁶ For WAHJ, employers must pay additional contributions to the state budget, depending on two elements: 1) the worker's participation in a single-tier or two-tier mandatory pension system, and 2) the pension insurance period enhancement.⁶⁷

Table 3: *Additional contribution rates for WAHJ*

Pension insurance period enhancement: from 12 months to	Additional contribution rate for WAHJ if single-tier insurees	Additional contribution rate for WAHJ if two-tier insurees	
		For 1st pension pillar	For 2nd pension pillar
14 months	4.86%	3.61%	1.25%
15 months	7.84%	5.83%	2.01%
16 months	11.28%	8.39%	2.89%
18 months	17.58%	13.07%	4.51%

⁶⁴ Arts. 86(3) and 90 (3) and (5) of the Pension Insurance Act. For more see: Vukorepa, *op. cit.* (fn. 5), p. 290.

⁶⁵ Arts. 13 and 17 of the Contributions Act (Zakon o doprinosima, Narodne novine, Nos. 84/2008, 152/2008, 94/2009, 18/2011, 22/2012, 144/2012, 148/2013, 41/2014, 143/2014).

⁶⁶ Regarding participation rights in a multi-pillar system, there are three situations that should be differentiated: 1) all people under the age of 40 (either at the time of the 2002 reform or at the time of becoming an insuree) have to participate in the two-tier mandatory system; 2) people aged between 40 and 50 at the time of the reform could choose between staying within the single-tier PAYG scheme or joining the new two-tier mandatory system, and 3) people over 50 had to remain within the first pillar only. See: Vukorepa, *op. cit.* (fn. 5), pp. 287 – 288.

⁶⁷ Arts. 13 and 17 of the Contributions Act.

It is generally assumed that these additional contributions are not sufficient to cover all the increased expenses of the pension system in respect of WAHJ.⁶⁸ Unfortunately, exact calculations have never been done, and it would be very useful if the CPII and the competent ministry were to make such estimates before reforming the system.

4.3. Retirement patterns and retirement income

There are no available data regarding labour market exit patterns for WAHJ. Hence, estimations whether and how long they remain unemployed before retirement are currently not possible.

Regarding retirement patterns, a significant number of WAHJ, regardless of the type of job, now retire on an old-age pension rather than a disability pension (see Table 4), although this varies according to types of jobs and occupations.

Due to the pension age reduction rules, the effective retirement age for WAHJ is lower on average than for other workers. For most WAHJ the retirement age during 2009-2015 was between 60 and 62. The lowest average retirement age was found among workers in de-mining (around 45 years and 8 months with an old-age pension, and between 38 and 42 years with a disability pension), workers who were exposed to asbestos (56 for old-age pensions), and ship crew members (60 for old-age pensions).⁶⁹

The share of pensioners who were WAHJ is around 7.7%.⁷⁰ The yearly share of WAHJ among new pensioners under the CPII has ranged between 6% and 8% in recent years. Most new pensioners, including WAHJ, enter retirement through old-age or early retirement, rather than on a disability pension.

⁶⁸ Baloković, *op. cit.* (fn. 46), p. 51.

⁶⁹ Author's estimates based on data obtained from the CPII.

⁷⁰ During May 2016 there were 88,189 pensioners who were WAHJ (CPII data at 13 May 2016 upon author's special request), while the total number of all pensioners, including some privileged groups, was 1,231,726 during May 2016 (1,138,817 regular pensioners; 13,933 pensioners who were active military personnel, police officers and other authorized public officials; and 72,150 pensioners defined as Croatian Homeland War veterans and 6,826 as members of Croatian Defence Council operating in Bosnia-Herzegovina). Source: CPII basic statistical data for May 2016, <http://www.mirovinsko.hr/UserDocsImages/Osnovni%20podaci%202016/osnovni-podaci201606HR.pdf> (1 July 2016).

Table 4: Retirement patterns for new pensioners⁷¹

Year of retirement	New pensioners – WAHJ only			New pensioners under CPIA ⁷² (including WAHJ but excluding some other privileged groups)				% of WAHJ in new pensioners
	Old-age and early retirement	Disability pensions	Total ⁷³	Old-age and early retirement	Disability pensions	Survivor's pension	Total	
2009	1,513	1,906	3,419	28,649	13,139	15,182	56,970	6.00%
2010	2,476	1,337	3,813	38,650	9,257	12,762	60,669	6.28%
2011	2,442	1,093	3,535	29,714	7,878	12,863	50,455	7.01%
2012	2,780	604	3,384	30,805	3,616	13,038	47,459	7.13%
2013	3,479	465	3,944	33,644	2,706	12,411	48,761	8.09%
2014	4,046	389	4,435	36,258	3,475	11,793	51,526	8.61%
2015	2,975	154	3,129	35,631	2,102	11,523	49,256	6.35%

Regarding the relative income situation of pensioners who were WAHJ, it should be pointed out that their pension benefits (old-age, disability and survivor's pension) are 27.7% higher than those of other pensioners under the general pension system. In practice, the difference in favour of WAHJ is even higher because all CPII's publicly available averages also include WAHJ. Higher pensions can be partially explained by enhancements to their reckonable periods of insurance.

⁷¹ Source: Author's calculations based on CPII data (data for WAHJ pensioners obtained on 18 May 2016 from Mr. Dražen Šlibar (CPII), while general data under the Croatian Pension Insurance Act (CPIA) are available online, Statistical Information Series). Note: Data do not cover pensioners who were active military personnel, police officers, Homeland War veterans etc.

⁷² Croatian Pension Insurance Act (Zakon o mirovinskom osiguranju, Narodne novine, Nos. 157/2013, 151/2014, 33/2015, 93/2015, 102/2015).

⁷³ No data available for survivor's pensions for new pensioners.

Table 5. Pension income situation of WAHJ compared to other regular pensioners⁷⁴

Type of pension benefit	Average pension amounts		Difference
	For analysed group of WAHJ (data as of 13 May 2016), in HRK	For all pensioners under CPIA, including also WAHJ (data for March 2016), in HRK	
Old-age pension (including early age pension)	3,092.21	2,422,03	+27.67%
Total disability pension	3,459.91	1,846.60 <i>(note: this average pension amount refers to all types of disability pensions)</i>	+87.36%
Partial disability pension	2,201.41		+19.21%
Survivors pension	2,293.40	1,881.55	+21.88%
Total average pension	2,857.86	2,245.49	+27,27%

It should be noted that, on average, pensioners who used to be WAHJ enjoy pension benefits for a shorter period than other pensioners (13 years for old-age and early old-age pensions, compared with 20 years for all pensioners, according to CPII statistics). More detailed data are presented in Table 6. However, complementary survivor's pension is paid for much longer to family members of WAHJ. In both cases this could be explained by a lower life expectancy for WAHJ, although no reliable data are available.

⁷⁴ Source: Author's calculations based on CPII data. Data for WAHJ pensioners obtained upon author's special request on 18 May 2016 (Mr. Dražen Šlibar, CPII). General data under the CPIA are available online, Statistical Information 1/2016, pp. 11 and 44. Notes: (1) All data exclude pensioners who were active military personnel, police officers, homeland war veterans etc.; (2) 1 EURO = around 7.5 HRK.

Table 6: *Average years of entitlement to pension benefit*⁷⁵

Years of entitlement to pension benefit	For analysed group of WAHJ (data from 13 May 2016), (yy mm dd)	For all pensioners under CPIA, including WAHJ (data for March 2016), (yy mm dd)
Old-age and early old-age	13 02 09	20 11
Total disability	10 04 27	18 07 (refers to both types of disability pensions)
Partial disability	11 09 20	
Survivor's	23 11 09	17 11

5. CONCLUSION AND RECOMMENDATIONS *DE LEGE FERENDA*

It can be observed that the retirement-centred approach adopted during the 20. century is slowly giving way to the work-centred approach of the 21st century. In many countries the tendency has been towards increasing the effective retirement age, tightening conditions for access to special provisions for WAHJ, as well as adopting more active labour market measures aimed at activation and retraining. Moreover, I am of the opinion that partial retirement (also termed “flexible retirement” or “job hand-overs”) could be generally implemented as a good work-oriented measure allowing workers with reduced working abilities (due to age or health hardships) to phase out and younger workers to phase in. Such a measure has several advantages. Firstly, it allows a transfer of both the substantive and the applied knowledge within an organisation. Secondly, it can be a solution to skill shortages. Thirdly, it has positive psychological effects on an individual’s well-being and longevity, and improves a person’s income adequacy.⁷⁶

⁷⁵ Source: CPII data. Data for WAHJ pensioners obtained upon author’s special request on 18 May 2016 (Mr. Dražen Šlibar, CPII). General data under CPIA are available online, Statistical Information 1/2016, p. 35. Note: Data do not cover pensioners who were active military personnel, police officers, homeland war veterans etc.

⁷⁶ Vukorepa, I., *Flexible retirement: working into old age*, European Annual Conference of the European Institute of Social Security (EISS): Social security and the changing concept of work, Oslo, 22-23.9.2016., <https://bib.irb.hr/prikazi-rad?&rad=834746>. For more on various aspects of partial retirement and work beyond pension age see also: Scherger, S. (ed.), *Paid work beyond pension age: comparative perspectives*, Basingstoke: Palgrave Macmillan, 2015.

In Croatia WAHJ have a double advantage within the general pension system: 1) a higher accrual rate for each period of contribution, and 2) a lower retirement age. Under the current legislation there are hundreds of jobs and occupations that are considered to be arduous and hazardous. The research showed that in contrast to many other countries with a decreasing trend, in Croatia there has been an upward trend in the number of WAHJ. They make up around 2.2% of the total number of insureds within the pensions system and 7.7% of all the pensioners. The average retirement income of WAHJ is around 27% higher than general average pensions. In addition there are many others in the public sector that enjoy similar privileges (the police, the army, etc.).

Currently, Croatian pension policy does not fare well in terms of striking the necessary balance between (on the one hand) prolonging working lives and (on the other) facilitating early exits for frail workers. Since 2013 the Government of the Republic of Croatia has been planning changes to the preferential pension treatment of WAHJ with a view to reducing the number of jobs and occupations classified as arduous and hazardous, as well as reviewing their right to full retirement at an earlier age. Since the current twofold preferential system has been in place for a very long time, it is likely that the reform will be disputed by key interest groups and the social partners. That is exactly why any policy changes need to be evidence-based and well planned. The CPII and the competent ministry should make thorough calculations and estimates before reforming the system in order to verify whether the additional contribution rates are sufficient to cover all of the increased expenses of the pension system in respect of WAHJ. Overall it would be necessary to improve the records on WAHJ and pertinent pensioners within the CPII, but also to initiate record-keeping within the Croatian Employment Service regarding their unemployment entry and exit patterns.

Based on analysed comparative reports and available data research, it is reasonable to make following proposals *de lege ferenda*. The double advantage system for WAHJ (enhanced insurance period and lower retirement age) should be reconsidered. The number of jobs, occupations and people covered by the preferential pension regime should be reduced because many of them are no longer hazardous or arduous. The right to a lower retirement age should be reviewed and restricted. Considering that such policy shifts would result in a bigger pressure on individuals, a more holistic approach is needed. In this context, third-pillar private pensions (voluntary defined-contribution-funded

schemes), agreed by social partners in collective agreements, can be used as a private compensatory measure for the reduction of the generosity of the public scheme. The retirement age for third pillar pensions is still very low (only 50 years), so these schemes can also serve the purpose of poverty risk reduction in the event of unemployment. The introduction of partial (flexible) retirement should be also considered, with actuarially reduced pension benefits (similar to a partial disability pension). In line with the need to increase the retirement age within the general pension system⁷⁷ and to tighten the special regime for WAHJ, we also need complementary measures towards actual workability and employability of older workers and workers with health problems. This requires more activation measures, e.g. rehabilitation aimed at recovery in sickness and disability policies⁷⁸ and retraining and carrier reorientation in active labour market policies. Hence, individually targeted measures aimed at prolonging working life and job mobility would be advisable (e.g. a ballet dancer becoming a dance teacher). Thus, it would be desirable that the Croatian Employment Service adopt more retraining programmes for employed and unemployed people to maintain their employability. So far such measures have been very few in number, mainly targeting employers rather than employees, and none have been adopted or planned for WAHJ.⁷⁹

⁷⁷ Currently the Pension Insurance Act provides for a gradual increase in the old-age retirement age from 65 to 67, and in the early-retirement age from 60 to 62, over the period 2031-2038; However, the Government Plan for 2016, adopted on 28 April 2016, envisaged an accelerated increase in the retirement age during the period 2024-2027. For more on the retirement-age problem see: Vukorepa, *op. cit.* (fn. 5), pp. 294 – 298.

⁷⁸ In addition, there are studies suggesting that the system of vocational rehabilitation for persons with disabilities could be enhanced. For more see: Bejaković, P.; Urban, I.; Sopek, P., Škoc, I., *Studija isplativosti profesionalne rehabilitacije u Republici Hrvatskoj (The Study on cost and benefits of vocational rehabilitation for persons with disabilities in Croatia)*, Zagreb: Fond za profesionalnu rehabilitaciju i zapošljavanje osoba s invaliditetom, 2013, <http://www.ijf.hr/upload/files/file/knjige/studija-isplativosti.pdf> (19 January 2017).

⁷⁹ Author's conclusion based on programmes and measures adopted by the CES, <http://www.hzz.hr/default.aspx?id=11728>, and <http://mjere.hzz.hr/> (15 May 2016).

Sažetak

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**PROMJENA MIROVINSKE POLITIKE PREMA RADNICIMA
ZAPOSLENIM NA OPASNIM I ZA ZDRAVLJE ŠTETNIM I
NAPORNIM POSLOVIMA: USPOREDNI PRIKAZ I POUKE
ZA HRVATSKU**

Smatra se da rad na opasnim poslovima i za zdravlje napornim zanimanjima negativno utječe na zdravlje i dugovječnost. Stoga su mnoge zemlje, uz davanja za slučaj ozljede na radu i profesionalne bolesti, takvim osobama dale i dodatne beneficije (npr. pravo na starosnu mirovinu u ranijoj dobi ili povoljnije stope prirasta mirovine). Međutim, zbog tehnološkog napretka i razvoja zaštite zdravlja i sigurnosti na radu, opseg tih poslova i stvarna razina njihove težine i štetnosti se mijenja. Dakle, postoji opravdanje za smanjenje prethodne velikodušnosti. Cilj ovog rada je usporedno prikazati postojeće varijacije i opseg mirovinskih beneficija, analizirati njihovo korištenje i predložiti novije reformske mjere. Posebna pozornost posvećena je situaciji u Hrvatskoj. Na temelju pravne analize i istraživanja podataka autorica predlaže promjene s ciljem postizanja bolje ravnoteže između opće potrebe za produženjem radnog vijeka i individualne potrebe radno nesposobnih osoba za ranijim umirovljenjem.

Ključne riječi: mirovina, mirovinska reforma, teški poslovi, za zdravlje štetni poslovi, zanimanja kod kojih dolazi do pada fizioloških funkcija, staž osiguranja s povećanim trajanjem, beneficirani staž, Hrvatska

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