



Costs and Benefits of Best Agers Employment

WP 3, Activity 2

Roland Kadefors



Baltic Sea Region
Programme 2007-2013

Part-financed by the European Union
(European Regional Development Fund)

Costs and Benefits of Best Agers Employment

Roland Kadefors, Ph.D.

Department of Work Science

University of Gothenburg

Göteborg, Sweden

Publication Date: 8 August, 2011



UNIVERSITY OF GOTHENBURG

This report has been produced within Work Package 3 of the EU-funded project Best Agers.

The project is part-financed by the European Regional Development Fund (ERDF) through the Baltic Sea Region Programme 2007-2013.

More information about the project and its results is available at:

www.best-agers-project.eu

All rights reserved.

Contents

- 1. Introduction 1
- 2. Considerations at the society level 1
- 3. Considerations at the company level 6
 - 3.1 Age and productivity 6
 - 3.2 Human capital investment considerations 8
 - 3.3 Age management 11
- 4. Quantification of costs and benefits 12
 - 4.1 Defensive versus offensive strategies 12
 - 4.2 The Alecta study 15
 - 4.3 Comparing older and younger employees: The Finnish experience 16
- 5. Conclusions 17
- References 18

1. Introduction

There is in many countries around the world an upcoming demographic crisis that is often said to be a threat to the welfare systems. The European Union in its Lisbon agreement (2002), emphasised that work participation in the older workforce needs to increase, in order to reduce the burden on the pension systems, and to ensure adequate workforce supply. The average employment rate for older people in the EU has indeed continued to grow, albeit slowly, reaching for the 55-64 year olds a 46.0% in 2009, compared with 36.9% in 2002 and 45.6% in 2008 (Eurostat 2010). The situation differs however significantly between member states. According to Eurostat (2010), the employment rate for those aged 55-64 was highest in 2009 in Sweden (70.0%), Estonia (60.4%), Denmark and the United Kingdom (both 57.5%), and Germany (56.2%). It was lowest in Malta (28.1%), Poland (32.3%) and Hungary (32.8%). Latvia had a work participation of 53.2% and Lithuania 51.6% in this age group. The relative work participation in older men and women differs significantly between member states. In the Baltic Sea region, statistics concerning Estonia, Finland and Sweden show only small differences in this respect, whereas in Poland work participation among women in age group 55-64 is only about half of that in men (Figure 1).

This means that in all BSR countries there is a significant resource among older workers that if utilized to a larger extent, could help alleviate the negative economic effects of the demographic change. In this report, some aspects relating to economic considerations at the society and at the company levels are outlined.¹

If it can be proven that it is economically sound to open up for older people to continue working, society and company practises are likely to change in order to improve conditions and incitements for people so as to make this happen. Such insight is a relevant point of departure for political action. But economic factors affecting working life and working people need always to be considered in context. It is recommended that on reading the present report, consideration be given also to the parallel Best Agers report "Employability of older people: a scientific review, conclusions and recommendations" (Kadefors 2010), where the factors hampering a prolonged worklife are identified and addressed.

2. Considerations at the society level

How much must the work participation increase in order to compensate for the demographic changes? Since demographics differ between countries, an example may be given based on Swedish data (Malmqvist 2007). It is found that in order to keep the number of worked hours constant, a rather modest increase from 77 to 81 per cent in the age group 20-64 would be needed up to the year 2015. However, in a longer perspective, an unrealistic 92 per cent would need to be working in the year 2030. This means that also measures other than increasing work participation in the age group 55-64 must be considered, including import

¹ This report draws in part on the contribution "Are Best Agers Employable, And Is It Profitable to Employ Them?", submitted for the Proceedings of the Conference on Best Agers Activities in the Baltic Sea Region, Gdansk, Poland, November 2010

of work force, increasing employment rate in women and in marginalised groups, and: increasing pension age.

The economic benefit gained by a person working is his or her production contribution. On a monthly basis, this contribution is of the order of €2,000 (Malmqvist 2007). At the national level, 100,000 persons full time employed contribute about €2.4 billion; in Sweden this corresponds to 1 per cent of GNP. On the assumption that these people continue working after age 60 rather than retiring, the net contribution to the GNP is of the order of €12 billion. Out of the €24,000 generated per year and person, the government retains about €10,000 through taxes, social costs, etc. which entails 42 per cent of the total contribution.

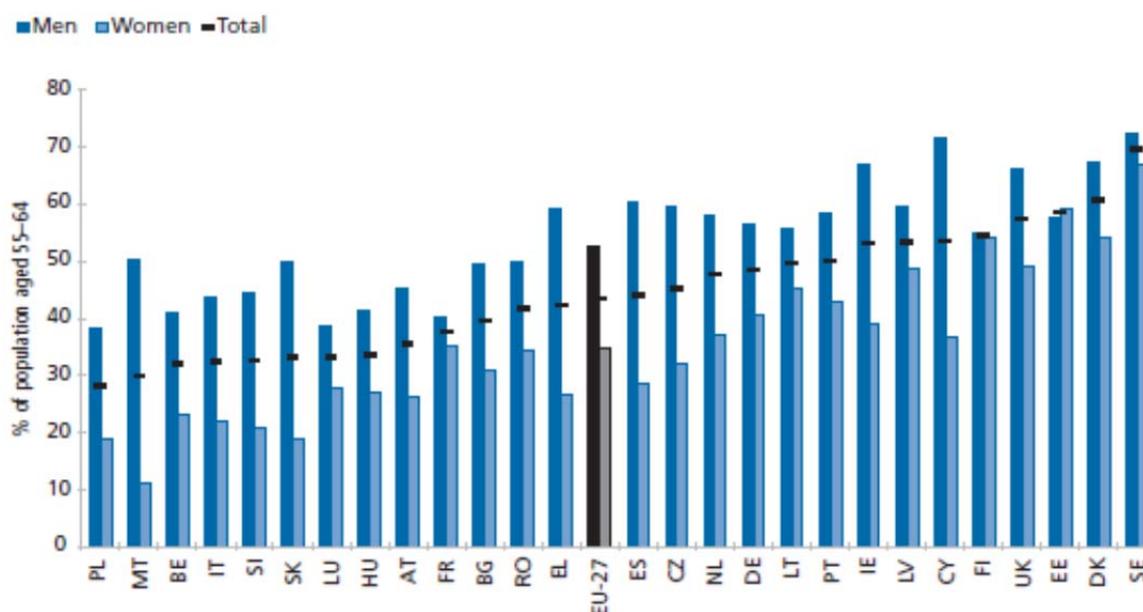


Figure 1. Employment rates across EU member states for older workers (aged 55-64), 2006. From Eurostat: EU LFS

Even though the figures and calculations will differ between countries, it is likely that the economic contribution entailed by increasing work participation among older people will be of economic significance in all countries, not only in the European Union, but in the industrialized world at large. In Canada, the ratio of population 65+ as a proportion of the 15-65 population is expected to at least double between 2000 and 2050 This cannot be compensated for by extension of the number of working years alone; investing in human capital, improving the competence of the new generations in order to entail higher productivity, may be effective and necessary (Fougère et al 2009).

There is a common reaction met among ordinary people, in workplaces, and indeed stretching up to the EU level, that investing in older people in order to keep them on the job for a longer time is disadvantageous for the young unemployed. The simple argument goes: if you retire, a young person will be able to get a job. And youth unemployment is an area of legitimate concern in all countries. It is indeed true that in a given organisation, for instance in a school, there may be a given number of positions available, and an older teacher would need to retire in order to make room for a young graduate, with a diploma fresh from school. But in private business, particularly in large companies, and certainly at the society

level, this is simply not true. It builds on the misconception that in a given economy, there is a given number of jobs.

This misconception has far reaching consequences. In the European Council Directive of 27 November 2000 “establishing a general framework for equal treatment in employment and occupation”, where any direct or indirect discrimination on the basis of age is prohibited, there is a provision that differences of treatment on the ground of age in member states shall not constitute discrimination, if they are “objectively and reasonably justified by a legitimate aim, including legitimate employment policy, labour market and vocational training objectives”. This provision was applied in the important Spanish de la Villa case, which was brought before the European Court of Justice in 2007. Here, Mr Palacios de la Villa, when reaching the age of 65, was denied continued employment on the ground that he had reached the compulsory retirement age as provided for in a collective agreement. He held that he had been discriminated against on the ground of age, since the measure was based solely on the fact that he had reached the age of 65. However, the European Court of Justice ruled that the decision taken in the national court did not constitute age discrimination, since the provision was adopted, at the instigation of the social partners, “as part of a national policy seeking to promote better access to employment, by means of better distribution of work between the generations”. This means, that not only the Spanish

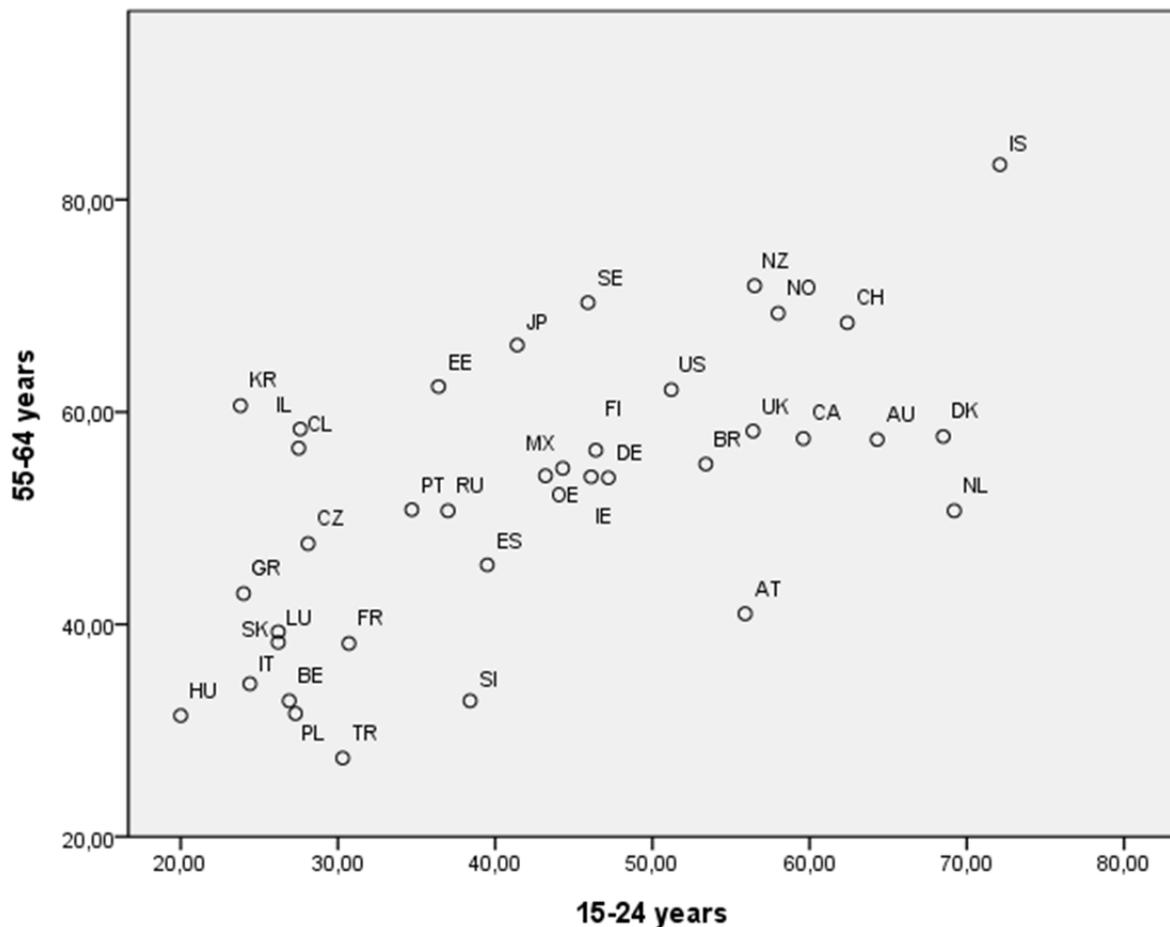


Figure 1. Employment rates in different age groups in the OECD countries (per cent). Data source: OECD Factbook (2010)

authorities, but also the European Court of Justice, believe that older people who refuse to retire, reduce the chances of young people to become employed.

In this context, the statistics developed by the OECD on employment rates in different age groups in OECD countries should be given consideration. Figure 1, drawn on the basis of statistics contained in the OECD Factbook 2010, shows the relation between employment rates in age groups 55-64 versus 15-24 in the OECD countries. It is clear (indeed also statistically significant at the 0.01 level) that those economies with higher work participation among older people also show higher work participation among youngsters.

A relevant conclusion that can be drawn is that there is at the national level no push-out effect. Rather the opposite: older people tend to create more jobs than do younger people. When the new U.K. government in 2010 announced that they intended to abolish obligatory pension age, and there were objections voiced, based on concern for the young unemployed, the responsible minister, Edward Davey, declared that the older people's work would contribute so much to the nation's economy that no problem would occur. The OECD statistics indicate that he has good reasons for retaining this position, provided that his government find ways to make it possible and attractive for older people to continue working. This cannot be done simply nor by moving or by abolishing pension age, since there are large groups in the labour market that stop working long before obligatory pension age already. In Sweden, the difference between occupational groups with respect to at what age they leave working life is in the range of ten years. Groups that continue working, and who have only few "lost years", include academia and high ranking officials, while disadvantaged groups are found among the traditional blue collars (see Tables 1 and 2). Here, "lost years" refer to the average number of years lost for those who belong to a certain occupational group at age 39, before reaching age 65 (official pension age). The statistics are for the whole of Swedish labour market, approximately 6,3 million individuals.

It can be concluded that in order to actually achieve that a significant part of the labour force continue working, it is necessary to improve incitements, and to change the conditions at work for the blue collar group.

Table 1. Jobs with high number of lost years before official pension age (Kadefors 2007)			
Women		Men	
Category	Lost years	Category	Lost years
Service workers	11.4	Service workers	8.9
Manufacturing industry workers	10.1	Manufacturing industry workers	8.5
Janitors	9.2	Robot operators	6.5
Food industry workers	7.0	Leisure travel hosts	5.4
Transport workers	6.5	Restaurant and kitchen workers	5.3
Mail distributors	6.5	Cleaners	5.2
Metal industry workers	6.5	Precision tool workers	5.1
Wood workers	6.4	Janitors	5.1
Cleaners	6.4	Construction workers	5.1
Rubber and plastic industry workers	6.3	Butchers, bakers	4.7

This last point can be illustrated by the recent changes brought about in the Norwegian pension system. As of January 1 2011, compulsory pension age is effectively abolished in the whole of the private sector of the Norwegian labour market. Employees cannot be discharged on the basis of age alone; they can continue to earn pension points up to age 74. It is expected that also the public sector will follow in a near future. The background to the reform is that it was observed, already ten years ago, that more people were leaving the labour market than were coming into it. This situation was not considered economically sustainable. So the Norwegian government initiated a process in order to find ways to increase work participation among older people by bringing about changes in the pension system. Participants in the work included political parties, employers and labour unions, governmental agencies, NGOs, and experts. The process was consensus oriented, and fully transparent. It was given time: it took ten years from commencing work until the parliamentary decision was finally reached in the fall of 2010. The bill put before the Stortinget included important considerations. Firstly it was guaranteed that no one would face a worse situation economically in the new pension system than in the old one. Secondly, it was emphasised that in order to make the new system successful, changes would be needed in working life:

“The work with an inclusive work life must be continued so as to make it possible for older employees to continue working. The government must in co-operation with the social partners develop measures for a senior policy that motivate older people to continue working, and companies to employ and retain them.”

Women		Men	
Category	Lost years		Lost years
Executive directors	0.6	Specialists in agriculture and forestry	0.4
Specialists in agriculture and forestry	0.7	Higher officials and politicians	0.5
Higher officials and politicians	0.8	Pilots, ship's officers	0.7
Artists, entertainers	0.9	Production managers	0.7
Physicists, chemists	0.9	Computer specialists	0.8
Graduate engineers and architects	1.1	Physicists, chemists	0.8
Health and hospital care specialists	1.1	Economists, personnel specialists	0.9
Economists, personnel specialists	1.2	Graduate engineers and architects	0.9
University teachers	1.3	University teachers	0.9
Managers	1.4	Health and hospital care specialists	1.0

There are important lessons to be learned from the Norwegian case. The first one deals with building national consensus. It is essential that the process is given time, allowing stakeholders, including individual citizens, to be able to react to proposals developed, and to adapt mentally to the need for change. A second lesson is that it is not sufficient just to push retirement age upwards; changes must be brought about concurrently in work life. And a third lesson is: it is politically feasible to address the demographic problem in adequate terms.

In the Best Agers project, it has been pointed out that in order to make possible to arrive at higher work participation among older people, conditions differ between countries. For instance, many retired persons, particularly women, may support their grown-up children by caring for their grandchildren; this is a necessity in a situation where access to public childcare is limited or simply not accessible. An example: in Sweden (like in Norway), such provisions were developed several decades ago. This is one of the reasons behind the high work participation among women in the age span 55-64 years. It has also been suggested that it explains, at least in part, the relatively high nativity in Sweden. A conclusion to be drawn is that the national cultural context needs to be taken into consideration in the development of new age related policies at the national level. Costs for improvement of public childcare may well be a key investment in order to be able to arrive at higher work participation among older citizens.

3. Considerations at the company level

3.1 Age and productivity

Many employers have a negative view with respect to the productivity of older employees. In the literature, the attitude of Swedish employers has been studied in a survey carried out in the context of the Swedish governmental study “Senior 2005”. Here, 53 % of the employers believed that older people have difficulties to learn new things, and a majority declared that they never employed people older than 50 years. It is interesting to contrast these negative attitudes to the fact that no general negative correlation has been established scientifically between productivity at work and age.

Indeed, the fact that there are age related physiological and cognitive changes, which affect all human beings, does not imply that there is a general relationship between age and productivity at work (e.g. Greller and Simpson 1999). Older workers may perform equally well, or better, than younger ones. Salthouse (1997) concluded that the loss of cognitive function, and a negative influence thereof on job performance, may be balanced by a positive relationship between age, experience, and job performance. It has been stated that older workers often show better performance than younger ones due to e.g., lower turnover, lower absenteeism, higher work satisfaction and higher commitment. In fact, different combinations of knowledge demands and information processing demands may entail positive, negative or no relationship at all with age (Warr 1994).

Longitudinal studies of work ability in relation to work demands have shown that even though there is a statistical decline with age above, say, the age of 50, this does not apply for all individuals. The variability in work ability increases with age, and the difference between individuals is often larger than the difference between age groups (Ilmarinen 2006, Goedhard and Goedhard 2005). These individual differences depend in part on factors such as physical training activities, and chronic diseases and disorders (Baumgartner et al. 1999, Nygård et al. 1991). This complex pattern explains why superficial studies often fail to identify relationship between age and performance (McEnvoy and Cacio, 1989).

The employability of the older worker is, as we have seen in the Best Agers report, “Employability of older people: a scientific review, conclusions and recommendations” (Kadefors 2010), not only a matter of his or her individual characteristics in terms of

ambition, flexibility, health and competence. There is also a barrier among many employers with respect to the views they hold of older employees. Barriers experienced by persons aged 50+ with respect to the possibility to remain in, or to re-enter the workforce after having been made redundant, include negative perceived attitudes among employers when it comes to older people's flexibility, willingness to learn new things and updated competence (Holmer et al. 2010). Such negative views, which may result in a reluctance to employ older people, and even to deny employed older people access to competence development, are likely to be based on a perception that older people cannot contribute as much to the company's economic goals as do younger ones. The economic dimension is crucial in many organisations, even though it would be a mistake to state that such perceived negative attitudes would characterise employers at large. In a questionnaire study directed to Swedish employers (Johansson Hanse et al. 2006) it was found that more than 50 per cent reported that they had employed new staff aged 50-59 years in the past two years; and 11% said that they had recruited new employees in the age group 60-65 years in the same time period. At the same time, in the same study, it was found that almost 50% of employers thought that older people were less flexible and had more difficulties to learn new things.

In the U.K., employers were found to have balanced views on older workers, valuing factors such as experience, reliability, productivity and creativity (Taylor and Walker, 1998). Also in the Netherlands, employers held favourable attitudes towards older workers with respect to their perceived productivity and reliability (Henkens, 2005). However, in these studies there was also a conception among employers that older workers were difficult to train and that they resisted technological change (UK), and that they showed a lack of adaptability and resistance to learn new things (the Netherlands).

Chiu et al. (2001), who studied attitudes of employers in the UK and in Hong Kong, noted that older respondents tended to have a more positive attitude than did younger ones with respect to the adaptability and work effectiveness of older workers. Stereotypical beliefs affected employers' attitudes towards retention, training and promotion of older workers. Also in the Netherlands it was found that managers who were older and in more frequent contact with older employees tended to hold more positive views; they also supported early retirement more strongly (Henkens, 2005). It may well be so that employers' attitudes towards older workers are coloured by their past exposure to older workers.

There is limited support for a notion that the type of organisation influences the attitudes towards older workers, although Henkens (2005) found that organisations that had a large proportion of highly educated workers tended to be more positive to older ones. Attitudes were in general more negative in the local governmental than in other sectors. In a study of 905 managers in public service, Nilsson (2007) found that most respondents adhered to the stereotypes that older people are slower, less open for change, have lower competence and that they are negative to adoption of new technologies. On the other hand, positive values expressed included that the older employees were more careful and that they had attained a life competence that made them apt to be supportive to younger employees and to new recruits.

In a comparison between employers' attitudes and actions regarding the position of older workers in four different European countries, it was noted that there was a lack of measures to recruit and retain older workers; only in the U.K. employers seemed to recognise older workers as a valuable asset (Van Dalen et al. 2009).

Views of costs and benefits with respect to an ageing work staff among employers were mapped in general terms in five European countries (Van Beek et al. 2010, Van Dalen et al. 2010). Here, employers were asked, if the average age of the employees in their organization increases, how likely is it that different outcomes will occur? It is seen that even though there are considerable differences between countries, there is generally a positive view with respect to older people's know-how and experience (Figure 2).

It is interesting to see that many employers according to this survey believe that an increase in labour costs is likely to follow upon a possible increase in average age in the organisation, and that they foresee an increase in costs for training and career development. They also hold that demands to improve working conditions and work organisation will increase. These costs are balanced by the perceived "increase in know-how and experience".

Implementation of measures at the organizational level has been hampered since it has been difficult to prove that age management in fact helps improving the productivity of the organization; the methodological problems in identifying the impact of human resource measures are hard to tackle (Bloom and Van Reenen 2010). This problem was addressed a recent study carried out at the *Centre for European Economic Research* (Göbel and Zwick 2010). They investigated whether the application of specific measures for old employees lead to an increase in relative productivity in this group of workers. The specific measures included in the study were, (a) specific equipment of workplaces, (b) reduced working time for old employees, (c) age specific jobs for old employees, (d) mixed-age working teams, and (e) training for old employees. The study was based on the German national statistics linking employer-employee data, made available by the *Institut für Arbeitsmarkt- und Berufsforschung*, covering almost 7 million employees at more than 8,500 workplaces. Productivity was estimated using classic measures for the so called dynamic Diff-GMM estimates. Main conclusions were that measures involving specific equipment and changes in work requirement for older employees were associated with a significantly higher relative productivity. Also organisations applying age mixed working groups showed higher productivity in old as well as in young employees. However, no evidence was found for an association between neither productivity and flexible working times, nor for inclusion of older workers in specific training measures; this lack of correlation was however questioned by the authors as a possible consequence of wrong implementation. They conclude that "specific measures for old employees are an effective way to raise the relative productivity contribution of old workers".

3.2 Human capital investment considerations

Even though it may be realised in part of the company organisation that keeping older workers on the job for a longer time has distinct advantages, there are in most cases certain costs involved that need to be accepted and made legitimate. For instance, in order to implement mentoring activities so as to facilitate transfer of knowledge between older and younger employees, time must be allotted for the purpose, and this means a cost that need to be budgeted. Would it not be more profitable to make the older person retire, and hire a new person fresh from school? There is a need for an economic analysis of the options, and put the advantages of keeping the best ager in economic terms. To do this is however far from straightforward, and the calculations depend to a large extent on the local conditions at the national level. The following treatise contains in part examples drawn from the

Swedish labour market, which indicates that the quantitative results arrived at are likely to be different in other countries. However, the approach taken, and the qualitative conclusions are most likely applicable across borders.

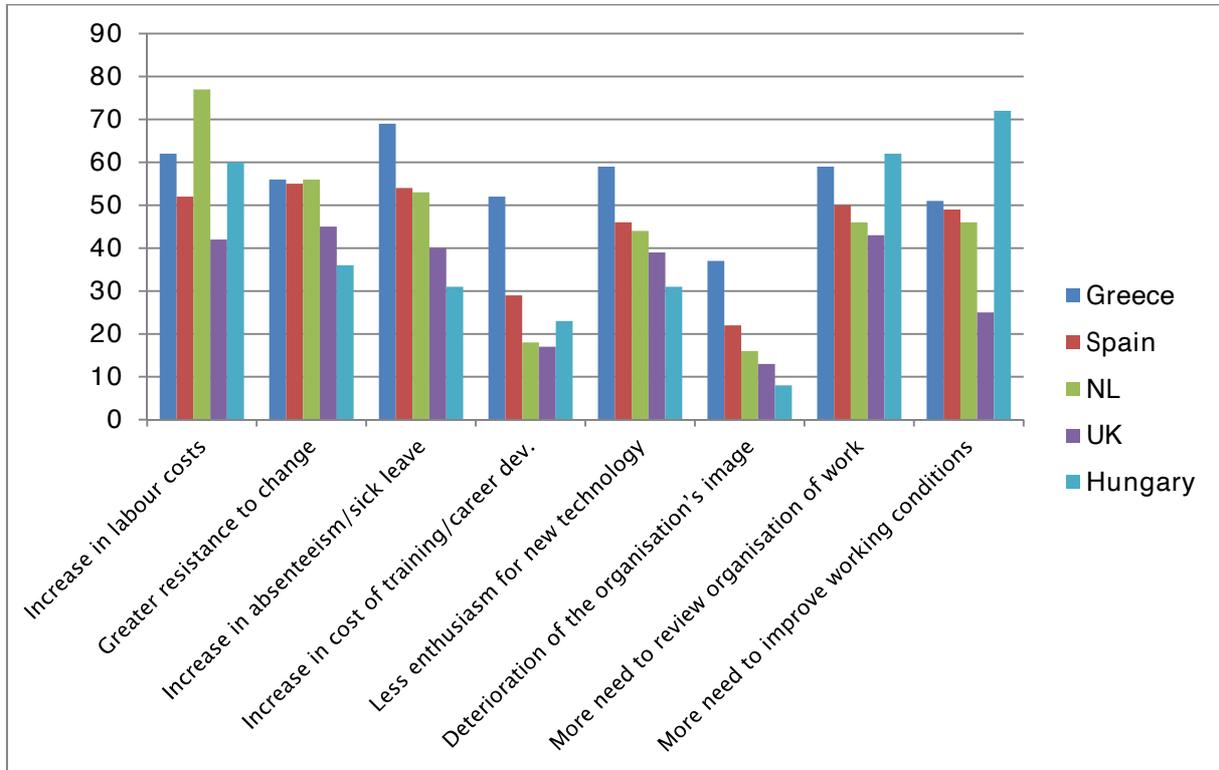


Figure 2(a). Costs. Expected consequences of an ageing work staff among employers in five European countries (percentages). Data from Van Dalen et al. (2010).

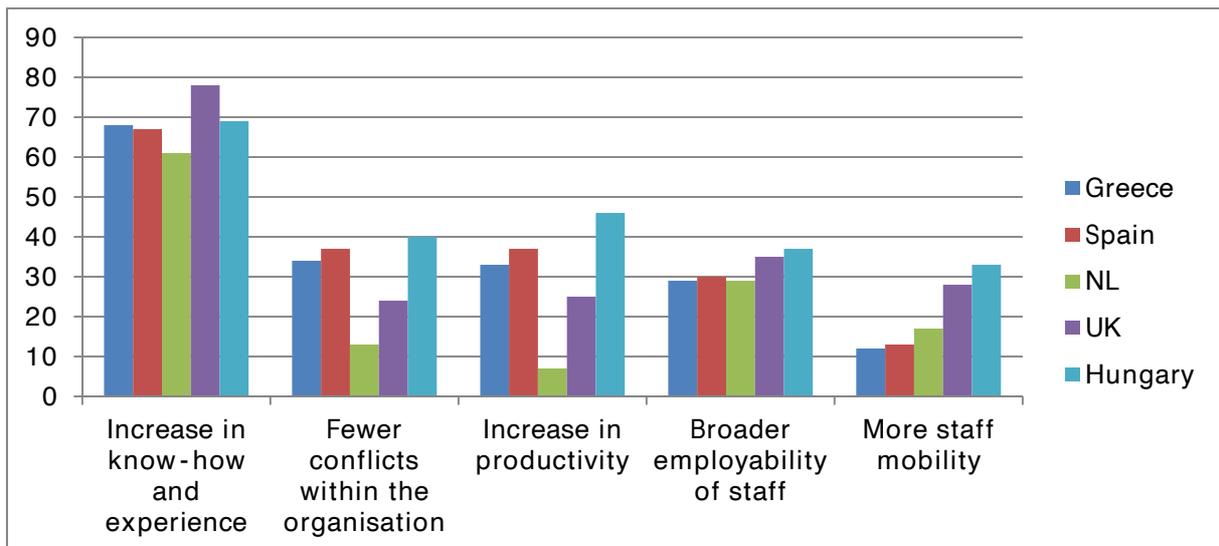


Figure 2(b). Benefits. Expected consequences of an ageing work staff among employers in five European countries (percentages). Data from Van Dalen et al. (2010).

In Human Resource Management (HRM) literature, labour economists have advocated that human capital investment should not be made for older workers. This view, based on neoclassical human capital theory, has however been challenged. Simpson et al. (2002) in a review, make a distinction between (a) the labour economics model, and (b) the life-span career development model for human capital investment. In the labour economics model, the cost-benefit considerations are based on comparing the discounted net returns from education and training over the remaining years of employment before reaching pension age. The rationales for not investing in the human capital of old workers are that they are too valuable in their present job for participation in training activities, and that they have only few years left, making pay-back questionable. There is considerable empirical support for this model. However, according to the life-span development model advocates (e.g., Sterns 1986), the pay-back period of training activities is generally short, perhaps of the order of 3-5 years, which tends to level out differences between age groups. And older people are becoming more interested to invest in their own human capital, since they plan to a higher degree to continue working up to and even after official pension age. This behaviour is not compatible with the labour economics model (Simpson et al. 2002).

In reality, the picture is complicated. As we have seen in the previous section, some employers do see the need to invest also in the late career employees, others don't. Only 18% of UK employers, according to a survey carried out by the EU partnership FAIRPLAY for Older Workers (Croppers 2006) considered providing training for older workers. So despite the focus on the knowledge based society and lifelong learning, relatively few employers still invested in training of their older workers. Overall, the FAIRPLAY research showed that UK employers were taking more measures to retain older workers in their organisations than employers in the other countries participating (Greece, Spain and the Netherlands). Nevertheless, the authors conclude that "yet, even in the United Kingdom it is still only a minority of employers taking such measures".

This all indicates that since competence factors have been found to present severe barriers for contextual employability, employees, regardless of age, should not be valued according to the 'depreciation' model, but should be seen as potentially long-lasting valuable assets, and lifelong learning strategies need to be applied more widely.

Although there is a lack of scientific studies on the subject, many employers believe that it is profitable to have a healthy mix of ages in the organisation. The European Older People's Platform AGE (2009) note:

"The barriers between age groups in the workplace need to be broken down and a holistic approach should be taken to addressing the needs of workers of all ages... the valuable transfer of knowledge and experience between older and younger generations should be more widely acknowledged as many formal and informal transfers exist in both directions which allow the mutual acquisition of knowledge and experience."

This view is supported by the findings reported in the previous paragraph concerning associations between productivity and application of age mixed approaches in organisations (Göbel and Zwick 2010).

3.3 Age management

In almost all organisations, there are older employees who are particularly valuable, since they carry knowledge that is extremely important for the organisation to retain. But only few organisations have a system for identifying what is the critical competence, and how to transfer competence from an older employee to a younger one, perhaps a newly employed (Holmer et al. 2010). There is a need for measures that are not implemented only in the last few weeks preceding the retirement of the key person, but that reflect a systematic plan for organisational competence care and preservation.

If Best Agers are going to stand a better chance than they do to-day in the future European working life, it is imperative that they are seen by managers as assets rather than as problems; that benefits are winning over costs. But such a change is not going to take place easily. Ilmarinen in his major book (2006) points out that there is a process of change that must take place in every organisation. He suggests a three stage approach based on the observation that “information, and its adaptation into an understandable and clear format are... merely early stages in a process that aims to change the practises of worklife”. So what is needed is that information is cultivated into useful knowledge. Only if and when this has happened, is meaningful action possible.

There is general agreement that in order to provide for better conditions for older people at large in an organisation, it is too late to start with precautions when they become 50 years, or when they have got some age related problems. Indeed, the personnel management should be paying attention to the age aspects among employees currently, and counteract development of age stereotypes in the organisation. The concept of Age Management (Friberg 2007, in Skoglund and Skoglund 2007) provides a reference to be seriously considered in such endeavours. It has been developed in order to make clear how a company can benefit from giving each age group adequate working conditions.

What is then Age Management? Ilmarinen (2006) refers to the concept as follows: “Age management requires taking the employee’s age and age-related factors into account in daily work management, work planning and work organization; thus everyone – regardless of age – can achieve personal and organizational targets healthily and safely.”

A European Age Management Network was formed in 2007. It claims (2010):

“Age management promotes longer and better quality working life across the life-course in a way that is favourable for employers as well as individuals and society.
This means that Age Management is not only a matter of the elderly work force, it is for everyone, e.g. transfer of knowledge affects both older and younger workers.”

One of the first organisations to apply age management at a broader scale was the Swedish energy company Vattenfall AB Nordic. As Friberg (2007) emphasised, the adoption of the Age Management Programme in the Vattenfall organisation was seen as a strategic issue. He

quoted the CEO of the company who declared, “The age pyramid in the company shows that many skilled employees are approaching retirement age. There is a clear risk that their knowledge will not be transferred to younger employees before they leave the company.”

Age management in the Vattenfall case included the following elements (Mykletun 2007, Mykletun and Furunes 2010):

- Internal and external labour market
- Senior Resource Pool
- The Work Square (a meeting forum)
- Competence Exchange
- Competence Transfer Mentoring
- Dialogue Seminars
- Motivating the Ageing Workforce to stay with the company
- Course on “Age and health awareness leadership”
- +57 seminars offered to all employees
- New working schedules for 58+
- 80/90/100
- Internal and external media support

This means that a series of initiatives are taken; some of them addressing not only the older employees, but the entire organisation. Here, the step-wise retiring scheme “80-90-100” is of particular interest. This model means that older key persons are offered to reduce their working hours by 20%, that they are given 90% of the salary, and that they retain 100% of the pension the day they retire at normal retirement age. The 80-90-100 model has since been employed by several large organisations in Sweden, e.g., in banking, public management, and nuclear power industry. Experience shows that almost all individuals who are offered the 80-90-100 option accept it (Friberg 2007, Mykletun and Furunes 2010).

Principles of age management, not only comprising the 80-90-100 scheme, have been applied also in public contexts. In the municipality of Kiruna, in the north of Sweden, a programme aiming at development of the older employees was carried out (Skoglund and Skoglund 2007). Intentions were to reduce of costs for sick leave and on increase the motivation of older managers to keep on working. It was part of a general ambition of the municipality to be known as “the good employer”. The intervention process comprised six areas: health, rehabilitation, competence, appraisal discussions, introduction of new recruits, and leadership; all with a focus on older employees. An evaluation carried out shortly after the intervention indicated that the principles of age management had started to spread in the organisation, with respect to management practice, rehabilitation, and annual appraisal discussions, not only in the 45+ group but in all employees irrespective of age. New policies had been worked out and put in writing.

4. Quantification of costs and benefits

4.1 Defensive versus offensive strategies

We endeavour here to identify and to quantify the costs and benefits of best agers employment at the company level. And, in a wider context, the question is, is it profitable for a company to apply age management?

There are different approaches to the problem of competence preservation in a generation shift. As Malmqvist (2007) phrased it, the employer has a choice between a defensive model and an offensive model when it comes to phasing out older employees. A defensive model means that schemes are applied which imply that certain older employees, who may intend to retire early, are given the opportunity to work reduced hours. The idea behind this is that the employee would then be encouraged to continue working part time until normal pension age. There are different variants to the defensive model, for instance that the older employee is given longer vacation or flexible hours. The 80-90-100 model is a well-framed example of a defensive model.

Malmqvist (2007) analysed the economic consequences of applying a defensive model. He categorised the costs and benefits (Table 3) and concluded that it is difficult under the provisions given, to make a defensive model profitable: in fact, the employer pays for not having work done. For the 80-90-100 model, in the case of a monthly salary of SEK 20.000 (fairly modest) this cost was estimated to SEK 114.000 annually. In order to compensate for this loss, an increase in productivity of about 16% is needed.

However, the profitability of application of the 80-90-100 model may be influenced depending on the presence of unique competences in the organisation. For instance in nuclear power industry, senior engineers who once participated in the construction of plants in the sixties or seventies, and who may consider retiring, may possess unique technical knowledge that is difficult or even impossible to retrieve through the company's information system. To find ways to retain such key competence in the organisation for a longer time is profitable also at high costs.

Are employers better off applying an offensive model, i.e., to apply age management principles in full? The assumption is that this approach makes it attractive and possible for older persons to remain employed. The benefits are the same as in the previous case, but the costs are lower, since the older person remains productive up to retirement age (Table 4).

Table 3. Benefits and costs in application of a defensive model (Malmqvist 2007)	
Benefits	Costs
Reduced costs for sick leave - better health status is possible	Production loss - payment for unproductive time
Higher productivity - better health improves productivity	Higher costs for personnel - other employees need to work more
Reduced costs for personnel turnover - employees work longer	Seminars, training etc. - annual seminars
Reduced costs for rehabilitation - long term sick leave is reduced	
Improved goodwill - contributes to company branding	

Table 4. Benefits and costs in application of an offensive model (Malmqvist 2007)

Benefits	Costs
<p>Reduced costs for sick leave</p> <ul style="list-style-type: none"> - better health status is possible 	<p>Competence development programmes</p> <ul style="list-style-type: none"> - more time supporting employability
<p>Higher productivity</p> <ul style="list-style-type: none"> - better health improves productivity 	<p>Seminars, training etc</p> <ul style="list-style-type: none"> - seminars to support management
<p>Reduced costs for personnel turnover</p> <ul style="list-style-type: none"> - employees work longer 	
<p>Reduced costs for rehabilitation</p> <ul style="list-style-type: none"> - long term sick leave is reduced 	
<p>Improved goodwill</p> <ul style="list-style-type: none"> - contributes to company branding 	

However, the profitability of application of the 80-90-100 model may be influenced depending on the presence of unique competences in the organisation. For instance in nuclear power industry, senior engineers who once participated in the construction of plants in the sixties or seventies, and who may consider retiring, may possess unique technical knowledge that is difficult or even impossible to retrieve through the company's information system. To find ways to retain such key competence in the organisation for a longer time is profitable also at high costs.

Under what provisions is the offensive model profitable? On the assumption of an organisation with 350 employees, of whom 15% (50 persons) are best agers, the following costs appear:

- Competence development of the older people. Three days annually, salary and production loss, SEK 15.000 per best ager.
- Seminars and follow up with managers, 35 participants, SEK 290.000.
- Competence development of top managers in age management, 10 participants, SEK 11.000.
- Inspiration day for the entire organisation, 350 participants, SEK 400.000.
- Consultant, 15 days, SEK 300.000.

The total cost amounts to about SEK 1.000.000. This is mostly a one-shot cost, to be depreciated over, say, five years, entailing an annual cost of SEK 200.000. There is a need for annual updating amounting to about SEK 50.000. This means for every best ager an annual cost of SEK 20.000.

The productivity increase needed in the best ager group in order to compensate for this cost is about 2.7%. Alternatively, a reduction in short term sickness absence of 64 hours annually or a reduction in costs for labour turnover, from ten to five per cent.

Introduction of age management principles in the organisation has most likely, beneficial influence also on those not being best agers. Breakeven is reached already at a productivity increase of 0.5% per employee.

In conclusion, there are very good possibilities to make an introduction of age management principles in an organisation profitable, applying an offensive model.

4.2 The Alecta study

In a study initiated by the Swedish Parliamentary Commission "Senior 2005", Sundström et al. (2001) of the insurance company Alecta, using business administration as their point of departure, reported on the pros and cons of the older worker.

In the Alecta study, a calculation model "The Employee Value" developed for business administration purposes, was applied. If an employee of the age of 58 years is given premature pension and if he or she is substituted by a 33 year old new recruit, how do the losses and the gains compare? - It is shown that the value losses do exceed the value gains that the recruited younger person contributes. On the assumption that the older person would continue working until age 65 (the normal pension age at the time) the loss of the employer amounts to approximately 3.3 MSEK (about €300,000). In this example, the costs compare as follows (Table 5):

Table 5. Comparison of costs involved (SEK) in recruiting a young replacement versus keeping a best ager on the job (Sundström et al. 2001)		
Cost	Year 1	Accumulated, year 7 (SEK)
Premature pension	2 041 855	2 041 855
Soured income due to premature pension, employed person	685 013	4 795 091
Production loss (sick leave and training)	-34 583	- 242 080
Recruitment cost, new person	500 000	500 000
Income from new person	-546 362	-3 824 532
Production loss, new person	12 330	86 311
Total net cost (SEK)	2 658 254	3 356 645

If you also take into account factors such as loyalty, security and experience, then the estimated loss exceeds 4.5 MSEK. This additional calculation is based on three constituents. *Direct production value* (DP) is the value that the employee contributes in the actual production, that is, the mental or physical job that he or she is engaged to do. *Additional value* is the contribution made by the employee in addition to the DP value, drawing on experience, knowledge, and personal network. *Meta value* is the emotional/social contribution by the employee based on motivation, loyalty, taking responsibility, and commitment. It is the Additional and Meta values that are considered particularly relevant in an analysis relevant to the older employees.

In the example, figures are based on the Swedish system for labour market regulations. In other countries, the systems are different, and the calculations will be different. However, as long as the employer has to bear the costs for the premature pension plan, the calculation is likely to end up in favour of keeping the Best Ager on the job. It should be noted that the recruitment of a new person to a qualified job represents a high cost undertaking for the organisation, which is often forgotten or underestimated. The cost quoted here, SEK 500.000 (about €54.000) was used by Alecta Insurance in their calculation system, but it is likely to represent a conservative estimate in many organisations. According to Ilmarinen (2006), already in the 1980's, it was estimated by an executive in a Finnish manufacturing company, that the costs involved in recruiting a new employee before reaching full productivity amounted to €43,000. It was noted that the costs for further education of a senior employee in order to keep him or her fully productive was only a fraction of this sum. Moreover, it was observed also that older employees were likely to stay on the job, whereas job turnover was much higher among the younger ones.

However, it should be noted that in the Alecta report it is concluded: "The wellbeing of the employee should not any longer be seen as a mediating factor on the way to increased profitability. Rather, the consequence and the value of initiatives and activities of employees may not be immediately transparent in economic terms, but they affect positively co-workers and at the end, the company as such." – This disclaimer conveys an important

message with respect to the applicability of economic calculation models in this area of study.

4.3 Comparing older and younger employees: the Finnish experience

Ilmarinen (2006), quoting Lähtenmäki (in: Ilmarinen 2003), compared the costs of work between younger and older employees in the Finnish labour market. As can be expected, calculations depend on the type of job and the branch of trade. For example, in manufacturing industry, the costs per work hour of a 19 year old mechanic were estimated to €20.75 compared to €21.82 for a 48 year old mechanic. Corresponding figures for a 30 year old economist undergoing training and a 45 year old production manager were €49.00 and €34.90, respectively. But figures could also be reversed: the hourly cost of a 28 year old IT clerk was €38.67 compared to €50.42 for a 50 year old workmate. These differences reflect the high costs involved in competence development (economy case) and the higher salaries paid to older employees (manufacturing and IT cases). Ilmarinen (2006) concludes:

“A direct comparison of workhour calculations is naturally problematic. The calculations do not take into account the quality of competence, the strategic importance of the job, commitment to the organisation, efficiency, or over loading, which are difficult to evaluate in euros. The influence of practical experience on productivity or accident risk may be significant.”

Aspects that favour younger employees compared to older ones include (a) lower salaries, (b) lower pension payment costs, (c) lower raises, (d) shorter vacation, and (e) lower sickness absence. Economic advantages in older employees include, (a) lower training costs, (b) less occupational accidents, (c) less parental leave, and (d) less job turnover.

In trades with a high number of occupational accidents, the fact that young workers are more accident prone than their older workmates has significant effects. In the Finnish system, accident insurance covers direct costs (e.g., salary, medical treatment, rehabilitation, work disability pension etc.). But the indirect costs, including e.g. production loss, overtime, work reorganisation, production disturbance and increase in insurance payment costs, are much higher; they are estimated to represent about 2-4.5 times the direct costs.

5. Conclusions

It is an economic necessity for all the Baltic Sea counties to find ways to increase work participation among Best Agers. Incentives furthering this cause need to be developed.

The argument that older people who continue working push out the young, is flawed at the national level. Older people who continue working create jobs also for the young. It is therefore adequate economic national policy to reform working life so as to make it possible and attractive for large groups on the labour market to continue working. As demonstrated by the Norwegian example, it is politically feasible to implement such policies at the national

level. However, such reforms are facilitated if they are given adequate time and if they are developed in consensus between stakeholders.

Introduction of age management policies addressing all employees is profitable at the workplace level, whereas measures focusing older employees specifically may not pay off as easily. It is adequate company policy to give employees competence development irrespective of age. Analysis of making older employees retire early and replacing them with young recruits indicates that this is not necessarily sound policy from an economic point of view.

It must be emphasised that it is not enough just to let best agers continue working longer. Best agers should be given adequate working conditions. They should be given access to competence development. Provisions should be made to provide for competence exchange between generations. But these measures should not address best agers alone. Principles of age management need to be applied in the organisation at large. This will downplay the significance of age and enhance the individual with her or his resources.

References

- AGE (2009). A Plea for Greater Intergenerational Solidarity. Brussels: The European Older People's Platform
- Baumgartner, R.N. Waters, D.L. Gallagher, D. Morley, J.E. Garry, P.J. (1999). "Predictors of skeletal muscle mass in elderly men and women". *Mechanisms of Ageing and Development*. 107:123-136
- Bloom, N. Van Reenen, J. (2010). "Human resource management and productivity". Working Paper 16019, NBER Working Paper Series. Cambridge MA: National Bureau for Economic Research
- Chiu, W., Chan, A., Snape, E. Redman, T. (2001). "Age stereotypes and discriminatory attitudes towards older workers: an East-West comparison". *Human Relations* 54:629-661
- Craik, F. Lockhart, R. (1972), "Levels of processing: A framework for memory research". *Journal of Verbal Learning and Verbal Behavior*. 11:671-684
- Cropper, J. (2006). "New Research Finds Employers Give a Passing Nod to Diversity." Report, FAIRPLAY for Older Workers, Fairplay partnership
- EUR-lex (2006). "Adult learning: It is never too late to learn".
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0614:FIN:EN:PDF>
- European Commission (2007). "EC Progress towards the Lisbon objectives in education and training. Indicators and benchmarks".
http://ec.europa.eu/education/policies/2010/doc/progress06/report_en.pdf
- European Council directive 2000/78/EC, "establishing a general framework for equal treatment in employment and occupation" (2007). *Official Journal of the European Communities* 2.12.2000
- Eurostat Newsrelease (2010). "Employment rate in the EU27 fell to 64.6% in 2009, but rate for older workers up to 46.0%". *Labour Force Survey* 117/2010
- Eurostat (2006). "How skilled are Europeans in using computers and the internet?" *Statistics in Focus, Industry, Trade and Services* (17/2006)
- Fougère, M. Harvey, S. Mercenier, J. Mérette, M. (2009). Population ageing, time allocation and human capital: a general equilibrium analysis for Canada. *Economic Modelling* 26(1): 30-39
- Friberg, N. (2007). "An aging work force in the EU", in: B. Skoglund and C. Skoglund (eds.), "Åldersmedvetet ledarskap. Att inte skjuta problemen framför sig". Boden: Age Management i Sverige, pp.12-27

Goedhard, R. Goedhard, W. (2005). "Work ability and perceived work stress". International Congress Series 1280:79-83

Greller, M. Simpson, P. (1999). "In search of late career: A review of contemporary social science research applicable to the understanding of late career". Human Resource Management Review 9:309-347.

Göbel, C. Zwick, T. (2010). "Which personnel measures are effective in increasing productivity of old workers?" Discussion Paper 10-069. Zentrum für Europäische Wirtschaftsforschung GmbH, Mannheim, Germany

Henkens, K. (2005) "Stereotyping older workers and retirement: the managers' point of view". Canadian Journal of Aging 24:353-366

Holmer, J. Kadefors, R. Thång, P-O. (2010). "Enabling longer work life – four case studies", in: Cedefop (ed.) "Working and ageing: emerging theories and empirical perspectives". Luxembourg: Publications Office, pp. 296-314

Ilmarinen, J. Lähteenmäki, S. Huuhtanen, P. (2003). "Kyvystä kiini. Ikajohtaminen yritysstrategiana." Jyväskylä: Talentum

Ilmarinen, J. (2006). "Towards a longer Working Life. Ageing and the quality of worklife in the European Union". Helsinki: Finnish Institute of Occupational Health

Kadefors, R. (2007). "Behov av och möjligheter till ett utsträckt arbetsliv för den äldre arbetskraften". Report to the Swedish government. Stockholm: National Institute for Working Life

Nilsson, K. (2007). "Chefers attityder till äldre medarbetare inom kommunen". Arbetslivsrapport 2007:4. Stockholm: National Institute for Working Life

Malmqvist, C. (2007). "Företagsekonomiska konsekvenser av aktiv Age management" . Report to the Swedish government. Stockholm: National Institute for Working Life

Mykletun, R. (2007). "Energetic ageing - Vattenfall: Outcomes as measured by selected work environment indicators, changes in retirement ages and practices, and sick leave for different age groups", in: Proc. "Competence 50+: Age as an opportunity. A European Conference on Age Management", Göteborg, Sweden

Mykletun, R. J. Furunes, T. (2010). "The Ageing Workforce Management Programme in Vattenfall AB Nordic, Sweden: Final Report", in: R. Ennals, R Salomon (eds.), "Older workers in a sustainable society". Berlin: Peter Lang Verlag - Education, Labour and Society

Nygård, C. H. Luopajarvi, T. Ilmarinen, J. (1991). "Musculoskeletal capacity and its changes among aging municipal employees in different work categories". Scandinavian Journal of Work, Environment and Health 17, Suppl. 10:110-117

OECD Factbook (2010). Economic, Environmental and Social Statistics

- Salthouse, T. (1997). "Implications of adult age differences in cognition for work performance", in: Kilbom, Å. Westerholm, P. Hallsten, L. Furåker, B. (eds.), *Arbete och Hälsa* 29:15-28
- Simpson, P. Greller, M. Stroh, L. (2002). "Variations in Human Capital Investment activity by age", *Journal of Vocational Behavior* 61:109-138
- Skoglund, B. Skoglund, C. (2007). "Age management blir Åldersmedvetet ledarskap", in: "Åldersmedvetet ledarskap. Att inte skjuta problemen framför sig". Boden: Age Management i Sverige, pp.107-122
- Sterns, H.L. (1986). "Training and re-training adults and older adult workers", in: J.E. Berren, P.K. Robinson, J.E. Livingston (eds.), *Age, health and employment*, Englewood Cliffs: Prentice-Hall, pp. 93-113
- Sundström, C. Larsson, B. Larsson, P. (2001). "Äldre arbetskraft ur ett företagsekonomiskt perspektiv". Study report, "Senior 2005". Stockholm: Alecta
- Taylor, P. Walker, A. (1998), "Employers and older workers: attitudes and employment practices". *Ageing and Society* 18:641-658
- van Beek, A. Henderikse, W. Schippers, J. (2010). "Do European employers support longer working lives?", in: Proc. "Supporting longer working lives: Guidance and counseling for ageing workers". Thessaloniki: Cedefop
- van Dalen, H.P. Henkens, K. Henderikse, W. Schippers, J. (2010), "Do European employers support later retirement?" *International Journal of Manpower* 31:360-373
- Warr P. (1994). "Age and Employment", in: Triandis H. C. et.al. (eds.) *Handbook of Industrial and Organizational Psychology* Vol. 4. Consulting Psychologists Press, Inc.