



National Report: Denmark

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Introduction¹

Due to demographic changes resulting in an ageing population a major decrease in the fraction of the population being at working age is foreseen in the majority of European countries. In near future this will put increasing pressure on the welfare systems in the European countries, and to avoid this increased work participation among older workers is now high in the political agenda both in the European Commission and in most member states.

This is also reflected in the strategic research agenda of the Joint Program Initiative² "More Years Better Lives" (JPI MYBL). As part of the JPI MYBL Working Group 3 "Work & Productivity" it was decided on a fast track activity to create a comprehensive overview on research and current knowledge on the main determinants of work participation at an advanced age, as well as the individual, institutional and societal reasons for early retirement in Europe, and to identify major knowledge gaps highlighting needs for future cross-country and interdisciplinary research. In a series of countries (Austria, Belgium, Canada, Denmark, Finland, Germany, Netherlands, Norway, Poland, Sweden, and UK) national reports on current knowledge have been produced covering both scientific literature and grey literature, and major findings across countries has been summarized in a joint report. The current report is the Danish national report being part of the fast track activity.

Part A: National background

- demographic factors (including future estimates)

The total population in Denmark at the end of first quarter 2014 was 5.634.437 persons. The age distribution by sex is presented in figure 1 (Statistics Denmark).

¹ The author of this report is Otto Melchior Poulsen of the National Research Centre for the Working Environment in Denmark. He was national representative in the working group „Understanding employment participation of older workers“ appointed by the Joint Programming Initiative „More Years, Better Lives – The Potential and Challenges of Demographic Change“.

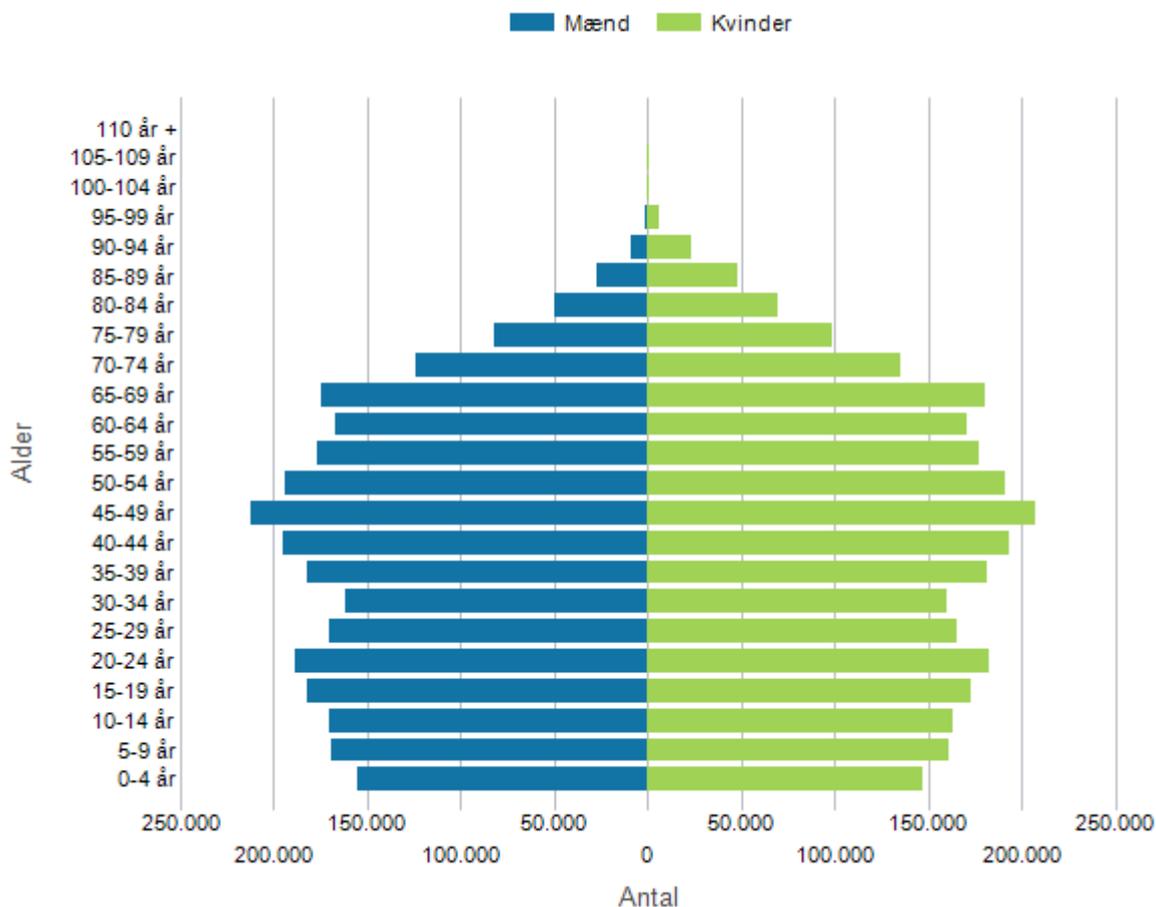
² Joint Program Initiatives have been launched by the European Commission since 2008 to promote cross national research collaboration within highly prioritized research areas. Both EU member states and countries outside EU can participate.



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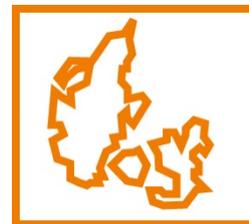
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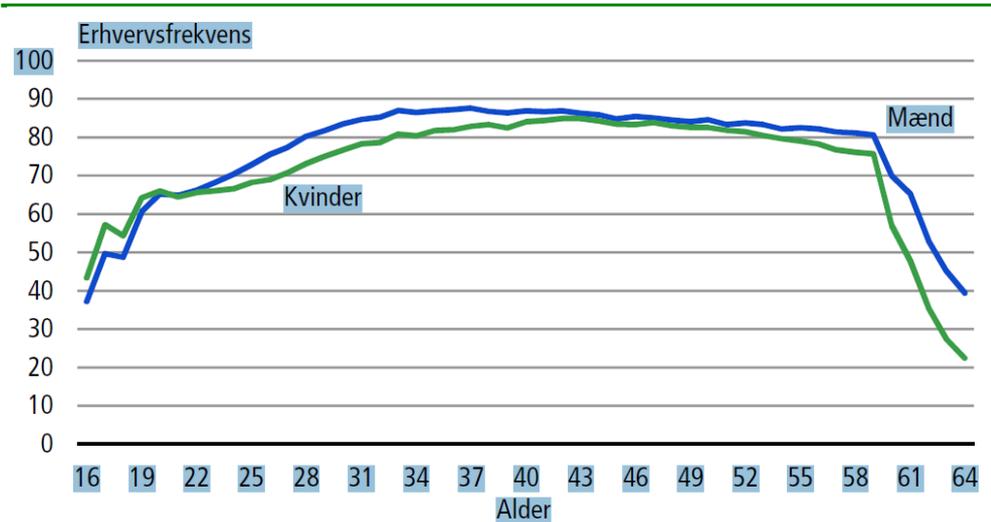
- employment figures (by age groups)

January 2012 63.7 % of the Danish population (3.556.000 persons) was in the occupationally active age (16-64 years). This fraction has decreased steadily since year 2000 (65.7 %) and consequently the burden on the Danish welfare system has increase. In the population age 16-64 years 74.5 % were occupationally active (the total workforce equal to the sum of all employed or unemployed at the labour marked). For persons between 16 and 30 years the fraction in the workforce was lower because more were under education (5.2 %). For elderly person between 60 and 64 years the fraction in the workforce was lower because 3.5 % was on voluntary early pension (in Danish "efterløn"). After 2008 the unemployment rate increased, and in 2011 6.4 % of the male workforce and 5.8 % of the female workforce was unemployed. The unemployment rate was highest for the age group 25-29 years (9.4 %). For the age group 60-64 years the unemployment rate was low (4.5 %) mainly due to the fact that many persons in this age group entered voluntary early pension. In the statistics the unemployment rates express the fractions of the workforce being full time unemployed. However, the number of persons being partially unemployed in 2011 was far higher, and in average 38 % of the workforce experiencing unemployment during some period of the year. The largest fraction of persons with employment is in the age group 16-64 years, but a substantial number of persons being 65 years or older are also employed (88,600 persons) (Danmarks Statistik 2012).



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Figur 6.1 Erhvervsfrekvenser for 16-64 årige i 2010

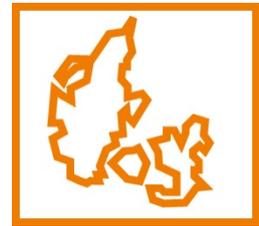


Kilde: Den registerbaserede arbejdsstyrkestatistik 2010

- employment policies and their changes,

The statutory retirement age for employees in the public sector is 70 years. Certain occupational groups are exempted, e.g. researchers and physicians at public hospitals and clinics. No statutory retirement age exist for the private sector. Today many politicians advocate for removing the statutory retirement age in the public sector.

The Act on prohibition against discrimination in the labour market (Law No. 1349 of 16th December 2008) defines that the reason for hiring, keeping in employment or dismissing a worker must not be based on an employee's age (EUOSHA 2014). However, there are some indications that age discrimination dose occur (Thorsen et al. 2012, DR Nyheder 2014). In a questionnaire-based study in 2008 in a representative sample ($n = 3,122$) of Danish employees 50 years or older four psychosocial factors (ageism, lack of recognition, lack of development possibilities, lack of predictability) were significantly associated with plans of early retirement (OR: 1.10-1.13) after adjustment for socio-demography, socio-economy, health, workability and work performance. When stratified on gender three psychosocial factors (ageism, lack of recognition, lack of development possibilities) remained significant for men and none for women. In particular the association between retirement plans and ageism was highly significant in the male subgroup (OR: 1.10 – 1.41). Ageism was measured with a single item reflecting the respondents' perceived attitude to older workers ("At your workplace... Is there any space for elderly employees?") (Thorsen et al. 2012). The Danish National Research Centre for the Working Environment (NRCWE) performs a national questionnaire based surveillance of working environment on a regular basis. In the most recent wave of the surveillance in 2012 (16.300 respondents) age 18 – 64 years) the faction of employees with seniority less than one year in the age group 55-64 years (men 4.6 % and women 4.3 %) was markedly lower than the average among Danish employees (11.2 %), perhaps indicating that elderly workers are less inclined to seek new employments. However, the surveillance also revealed that in general Danish employees do not



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worry about becoming unemployed, and employees in the age group 55-64 years worry less (Arbejde og Helbred 2012).

The ordinary retirement pension age was reduced in 2004 from 67 years to 65 years (Zielke Schaarup 2009). The “pension Act” (Law No. 783 of 9th July 2012) states that the age for ordinary retirement pension will increase gradually from 65 years today to 67 years or more in 2024. Pensioners are encouraged to work and allowed to earn up to DKK 30,000 per year without reduction in the pension (EUOSHA 2014).

A new law “Agreement on later retirement” was passed in 2011. As part of this law the period for obtaining voluntary early pension is gradually reduced from five to three years. Persons who are born before 1954 and fulfill some basic requirements can obtain voluntary early pension for a period of five years from age 60 years to age 65 years (ordinary pension age). For persons born between start of 1954 and end of 1955 the age limit for retirement to voluntary early pension is gradually increased from 60 years to 62 years, but they can still obtain voluntary early pension for five years because the age limit for ordinary pension is simultaneously increased from 65 years to 67 years. For persons born later than 1955 the onset of voluntary early pension is further delayed and the period is gradually reduced to three years. Consequently, voluntary early pension will be less possible in future (Homepage of Ministry of Employment).

Law No. 1543 of 20th December 2006 on Senior Work (as part of the 2006 Welfare Reform) defines the circumstances for obtaining the right to be appointed to a senior job. The municipality of an unemployed person age 55 years or more must offer the person a senior job if the unemployment benefit period has expired and the time before obtaining voluntary early pension is shorter than five years. This Law replaced a previously law entitling unemployed persons age 55 year or more to prolonged unemployment benefits (EUOSHA 2014).

In 2003 a new legislation on disability pension was passed, and access to disability pension was further limited as part of the new law “Agreement on later retirement” in 2011.

- labour market for older workers

In 2003 approximately 25 % of the older workers who entered voluntary early retirement were long-term unemployed prior to retirement (Jørgensen et al. 2005), indicating that older workers had particular difficulties in obtaining new employment. Age discrimination still seems to be a problem in Denmark. Currently the two groups in the labour force with the highest long-term unemployment are young, newly educated or persons above 55 years (Beskæftigelsesregion Hovedstaden & Sjælland 2012). In Denmark reduced working time is only apparent among women (Arbejde og Helbred 2012).

- retirement figures and trends,

The average age for retirement from the labour market decreased with approximately 2 years from 1992 to 2008. The reason for this was primarily earlier and more frequent use of voluntary early pension particularly among women (Zielke Schaarup 2009). Focusing particularly on persons who were occupationally active at age 59 years the retirement age has increased from 63.1 years in 2002 to 64.3 years in 2012. The fraction of occupationally active persons in the age group 60-64 years has increased markedly from 33 % in 2000 to 49 % in 2012. The increased labour market participation in the age group 60-64 years also occurred during the period of the global financial crises after 2008 (Baadsgaard 2013).



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- political constellations, ideology,

In Denmark there has for more than 10 years been a broad political consensus on the need for a prolonged working life. Already in 2003 the Ministry of Employment published 10 advices on what Danish enterprises may do to increase job retention among elderly employees (Beskæftigelsesministeriet 2003). An initiative directed against SME (up to 250 employees) was launched June 2013. SME's can obtain financial support from the governmental Prevention Fund to implement a program for job retention of elderly employees (Fonden for Forebyggelse og Fastholdelse 2013).

Part B: Analysis of research by domain

- A) the impact of the labour market context on labour market participation of people in upper working age (*THE LABOUR MARKET*)

A recent study among approximate 2000 Danish workplaces revealed that 51% of the workplaces have a policy for retention of elderly employees, and in $\frac{3}{4}$ of these workplaces the policy is written. Policies for retention of elderly employees are more common in the public sector and more common in larger workplaces. Senior policies are typically directed towards employees age 55 – 59 years, and comprise of job retention talks with nearest leader focusing on possibility of reduced working time, more flexible working hours, less demanding working task and/or development of new competences (Lederne 2012).

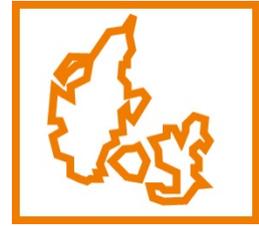
A questionnaire based survey in 2010 among 5,140 Danes (response rate 77 %) age 55 – 70 years revealed that 15-20 % of employees in this age group state that written or unwritten rules for age of retirement exist at their workplace, and several employees state that they intent to retire early because this is the rule of the workplace (Larsen et al. 2011). One the other hand one out of four of the employees age 60-64 years and one out of eight of the employees age 55-59 have an individual senior agreement with the management stating their mutual expectation in relation to job retention (Larsen et al. 2011).

In 2003 limited possibilities for unemployed senior citizens to obtain employment seemed to be an important reason for early retirement. Approximately 25 % of the persons who in 2003 were on voluntary early pension retired from unemployment (Jørgensen et al. 2005). This may still be the case since the current fraction of the workforce being long-term unemployed is highest among young newly educated persons, unskilled men and women, and persons older than 55 years (Beskæftigelsesregion Hovedstaden & Sjælland 2012).

Interestingly, a review of existing quantitative and qualitative materials in 2005 indicated that high seniority at the same workplace is associated with earlier retirement (Jørgensen et al. 2005).

- B) the impact of legislative measures and their implementation on work participation of people of upper working age (*LEGISLATION & ITS IMPLEMENTATION*)

A questionnaire based survey in 2010 among 5,140 occupationally active Danes age 55 – 70 years showed that the age limit for entering voluntary early pension to a higher extend than the age limit for ordinary pension determines when employees age 55 – 59 years expect to retire. Only 55 % expect to continue working after age 60 years, and only 15 % expects to continue working after the ordinary pension age (65 years). Approximately 10 % of the employees (age 55-59 years) are not



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entitled to voluntary early pension (Larsen et al. 2011). These results are in agreement with another survey showing that 58 % of employees (50-59 years) expect to retire before the ordinary pension age (65 years) (Thorsen et al. 2011).

A register-based study on RTW up to two years after an incidence of stroke demonstrated that odds for RTW increased profoundly during the period 1996 – 2006. To some extent this may reflect the legislative changes aimed at facilitating RTW in the Danish population (Hannertz et al. 2012).

C) the role of financial factors such as income, actual, self-assessed & feared loss of income on labour market participation of older workers (*FINANCIAL FACTORS*)

The age limit for voluntary early pension is considered to have major impact on when retirement actually occur. Similarly, if the size of economic compensation in voluntary early pension is small relatively to the income of present employment senior employees tend to retire later. Hence, rendering the early retirement schemes less available and less lucrative is believed to be an efficient tool to reduce early retirement (Jørgensen et al. 2005). In agreement, a questionnaire-based study in 2008 among 3,122 Danish employees age 50-59 years revealed that economic incentives for a large fraction of the employees may postpone their retirement – approximately 40 % stated that they would retire later if they could have reduced working time with full or partial compensation, and approximately 34 % would retire later if they were given tax reduction on income taxation. However, a similar large fraction (33 %) stated that more flexible working hours may have this effect (Thorsen et al. 2011). This was in agreement with a review of existing Danish knowledge in 2005 showing that reduced working hours and less demanding work task may postpone earlier retirement for some senior employees, particularly for women who have difficulties in fulfilling new work demand (new technology new working schemes and tasks) (Jørgensen et al. 2005).

the role of socioeconomic and socio-demographic characteristics on work participation of people of upper working age (*SOCIAL POSITION*)

A sample of 362 employees age 57-62 years were interviewed and a subsequent register-based follow-up was performed to record retirement to voluntary early pension. The study revealed a strong social class gradient in voluntary early retirement (Lund & Villadsen 2005, Lund et al. 2006). A review of existing Danish knowledge in 2005 revealed that people with higher education – and higher income – tend to retire later. Interestingly, later retirement also seemed to be positively related to large fortune (Jørgensen et al. 2005). Similar results were obtained in 2010 in a questionnaire based survey among 5,140 employees aged 55 – 70 years showing that among the occupationally active age 55-59 the groups who expect to retire early (before ordinary pension age) are person with low education, women, public employed and persons, who have had reduced working time before age 60 years. On the other hand high income and longer working time are associated with expectation to have a longer work-life (Larsen et al. 2011).

A register-based study on all Danes who entered voluntary early pension in 2004 (42,272 persons) showed that persons who entered voluntary early pension as early as possible (age 60 years) had to a higher extend a work-life history of receiving social benefits (sickness absence benefits and unemployment benefits) during the previous five years (Lund et al. 2006).

D) the impact of factors deriving from the domestic context on the individuals' work participation in upper working age (*DOMESTIC DOMAIN*)



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The review of existing Danish knowledge in 2005 (Jørgensen et al. 2005) stated that women retire earlier than men, and single adults retire earlier than adults living with a partner (particularly women). Men living with a spouse with equal or higher age retire earlier than men living with a younger spouse. Persons living in the area of the capital retire later than persons living in other regions of Denmark, and persons owning their own housing retire later than persons living in rented housing. The latter two observations may merely reflect socio-economic differences, i.e. owning ones housing and/or living in the area of Copenhagen may reflect a higher social class. Social class was strongly related to retirement to voluntary early pension (Lund et al. 2006). The survey in 2010 among 5,140 occupationally active Danes age 55 – 70 years showed that every third of the persons who have entered voluntary early pension state the cause to be a wish to give family and leisure time activities higher priority (Larsen et al. 2011).

E) the role of organisations and the employer with respect to work participation in upper working age (WORK: HRM AND INTERVENTIONS)

A study among managers of 2000 Danish workplaces showed that more than half of the managers believe that younger employees are more competent in ICT and more ready to changes, but in general the managers don't consider younger employees to be more productive, better at self-governance, more engaged or have less sickness absence than elderly employees. The majority of managers think that elderly employees have failed to preserve and develop their competences (Lederne 2012). Similar beliefs and attitudes pointing at age discrimination have been reported by others (Thorsen et al. 2012, DR Nyheder 2014).

F) the effect of working conditions on work participation of people of upper working age (WORK: WORK FACTORS)

Disability pension is by definition related to impaired health, and not surprisingly an association between sickness absences at baseline (4177 employees between 18 and 45 years interviewed in 1990) and subsequently risk of disability pension (follow up until end of 2004) was demonstrated (Labriola & Lund 2007). Similarly, a register-based follow-up study among municipal eldercare workers revealed a positive association between sickness absence and disability pension (Stapelfeldt et al. 2014). A seven years follow-up study with baseline information from year 2000 on socio-demographics, lifestyle, depressive symptoms and work demands (N = 5785 employed persons, aged 40 and 50 years) showed that symptoms of depression as well as high physical work demands were risk factor for disability pension after adjustment for covariates (Thielen et al. 2013). A similar study revealed that musculo-skeletal pain is associated with subsequent disability pension and long-term sickness absence, respectively (Thielen et al. 2009). Questionnaire based baseline data obtained in the Danish Work Environment Cohort Study (DWECS) in 1990, 1995 and 2000 (total of 8475 persons in the working population) was followed in registers until end of 2006 to record transitions to disability pension. The study revealed that ergonomic work environment exposures (physically demanding work, working with hands lifted and repetitive work) were risk factors for disability pension among both men (attributable fraction 21 %) and women (attributable fraction 34%) (Labriola et al. 2009). A similar study design was used to demonstrate that whole body vibrations were associated with increased risk of disability pension after adjustment for age, smoking habits, BMI, physical job demands and awkward work postures (Tüchsen et al. 2010). Among women occupational skin contact with cleaning agents or disinfectants was a risk factor for disability pension (attributable fraction 11 %) (Feveile et al. 2009). Also only among women shift work was associated with increased risk of disability pension after adjustment for age, general health, socioeconomic status, body mass index, smoking habits, and ergonomic exposures (Tüchsen et al. 2008).



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Several studies have shown that conflicts at work, low possibility for skill development and physically demanding work increased the risk for entering voluntary early pension (Lund & Villadsen 2005; Lund et al. 2006, Jørgensen et al. 2005). A questionnaire-based study on burnout in the human service sector (N = 1914 at baseline) showed that burnout – when measured with the Copenhagen Burnout Inventory - was associated with intention to quit which is highly predictive for early retirement (Kristensen et al. 2005). In a questionnaire based survey among 5,140 employees aged 55 – 70 years in 2010 Approximate 25% of the persons who had entered voluntary early pension stated the cause to be exclusively related to the labour market and the work place, particularly high work pace and tight time schedules (Larsen et al. 2011). This may be particularly pronounced in jobs with high physical demands. A cohort study 2004-2006 among Danish eldercare workers (N = 7025) showed that health problems and physical job demands were the main reasons for early retirement (Clausen et al. 2012). In agreement another prospective cohort study among Danish eldercare workers (N = 2444 employees aged 45–57 years) revealed that high physical job strain as well as low organizational commitment were associated with very early retirement intention (Sejbaek et al. 2013).

Based on data from a survey in 2006 self-reported health problems due to work-related physical attrition were profoundly more frequent among person age 60-64 years on voluntary early pension (16.2 %) than among person in the same age group but still working (7.6 %) (Høgelund & Thomsen 2011).

Some job groups with long academic or professional educations (e.g. school teachers and nurses) retire to voluntary early pension more frequently than the average. A questionnaire-based study among nurses revealed that low self-rated health, high physical exertion during work, high work pace, and limited influence were predictors for early retirement to voluntary early pension (Friis et al. 2005). However, the authors stated that the reasons for approximately half of the nurses to choose to retire already at age 60 years are by far not clarified. A recent study among 107 teachers from 10 public schools revealed that working in classrooms with poor acoustics (long reverberation times) was associated with increased intention to quit, low job satisfaction, and lack of energy after work. In this study the measurements of classroom acoustics were blinded to the teachers (Persson et al. 2013, Kristiansen et al. 2013).

Unfortunately, only a few Danish studies exists on reasons for some senior employees to choose to continue to work several years after the time when they could have entered voluntary early retirement or ordinary retirement pension. A review from 2006 focusing on occupational factors indicated that predictive factors may be feeling a professional pride and recognition, engagement/commitment, feeling of meaningfulness in the work, influence at work, and opportunities for development at work (Poulsen et al. 2006). Similarly, a high degree of job satisfaction was associated with later retirement in a broader review (Jørgensen et al. 2005). A comprehensive review prepared for the Nordic Council of Ministers in 2005 (in Danish) indicated that organizational commitment in particular is related to intention to quit which in turn is highly correlated with early retirement (Borg 2005).

G) the role of individuals' (ill-)health & health-related behaviour (*HEALTH & HEALTH-RELATED BEHAVIOUR*)

As mentioned earlier poor health is by definition related to disability pension. However, poor health is also related to earlier retirement to voluntary early pension (Jørgensen et al. 2005), and approximately one out of six of the persons who have entered voluntary early pension state the



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cause to be exclusively health related (Larsen et al. 2011). Several studies have revealed that chronic diseases may be associated with reduced labour market participation. A recent Danish register-based cohort study revealed that thyroid patients have increased risk of long-term sickness absence, lower rate of return to work, and higher risk of unemployment and disability pensioning (Nexo et al. 2014).

A large register-based study showed that people who survived cancer and were still working at baseline had an increased risk of voluntary early retirement during 8 year follow-up. Other observed risk factors for taking voluntary early pension among cancer survivors were late age at disease, manual job, sickness leave the year before, physical and psychological comorbidity, low education and low income (Carlsen et al. 2008).

H) the influence of “work ability” on work participation of people of upper working age (WORK ABILITY)

The Danish Work Environment Cohort Study (DWECS) in 2000 (total of 4743 persons in the working population) was followed in registers until end of 2005 to record long-term sickness absence and transition to voluntary early pension. Perceived work ability was measured using a single item on a 10-point scale. One point decrease in work ability was associated with 33 % increased risk of early retirement and 15 % increased risk of long-term sickness absence (Sell 2009).

I) the determinants and roles of the individuals’ motivation to keep working in upper working age (MOTIVATION)

The majority of employees have in their fifties decided when they will retire for work (Lund et al. 2006). A stratified questionnaire based survey among occupationally active men and women age 50 – 70 years measured a large series of aspect related to individual motivation to keep working or retiring (Daugaard & Lundsby Jensen 2007). Major findings in this study were

- Four out of 10 expect to retire at age between 60-63 years, and three out of 10 expect to retire between 64-67 years.
- Four out of 10 expect to gradually decrease their working time before retirement, and about half of the respondents would continue to work longer, if the working time could be arranged more flexible. However, only a little less than half report that this is possible in practice.
- The two primary causes for seeking reduced working time are more time for leisure activities and more time to spend with family, however, the majority of those not seeking reduced working time state that they cannot afford the reduced salary or subsequent reduction in pension benefits.
- A majority of respondents have not considered changing job or taking a new education. Nearly half the respondents believe that it will be difficult to obtain a new job on other work places, but still half of the respondents think that their competences are on demand at the labour market.

Part C: Conclusions for research needs in Denmark

In Denmark, several studies on determinants for work participation have been made. However, the studies have mainly been questionnaire-based cross-sectional surveys. Compared to most other



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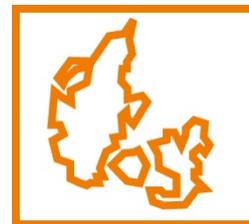
countries in EU Denmark provides unique possibilities for register-based follow-up studies, and this should be implemented in the research on work participation to a much higher degree.

In depth qualitative studies are generally lacking, particularly with respect to obtaining detailed knowledge on reasons for some senior employees to choose to continue to work several years after the time when they could have entered voluntary early retirement or ordinary retirement pension.

Currently detailed knowledge on why and how economic incentives can promote prolonged work participation is sparse. Similarly detailed knowledge on the impact of workplace HRM activities is needed. Economic and HRM research could provide a stronger contribution to evidence through better integration in multidisciplinary research in early exit from employment.

More specifically more knowledge is needed in Denmark on:

- Older people working with longstanding illness and functional limitations. This fraction of the workforce will grow rapidly in future
- The drivers and barriers for employers to employ and retain older workers.
- Effectiveness of policies, regulations and workplace activities in OHS and HRM to prolong older peoples' working life – When are they effective? And for who?



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