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Work factors, welfare regimes and health

The effects of psychosocial work factors on the health of older European workers and the impact of different welfare regimes

Anders Güettler
anders.guettler.547@student.lu.se

Abstract: The Demand-Control Model and the Effort-Reward-Imbalance Model are two models of occupational health that connects psychosocial work factors to health. Related research has often focused on small and homogenous samples and has rarely taken into account the eventual intermediating effect of different welfare regimes. Furthermore results regarding gender have been ambiguous. Through logistic regression analysis and in a context of current population ageing, this thesis explores the impact of psychosocial factors at work on the health of a sample of older European workers and investigates differences between gender and between workers in states with different welfare regimes. The paper finds support for the models in their predictability on health and reveals differences in work experience between welfare regimes. However, the impacts of demands, controls, efforts and rewards at work do not differ in a structural way between the two studied regimes. Furthermore female health tends to be impacted more profoundly by lack of control and poor job security than men. Although further research is needed, these findings may be beneficial for proposals to overcome challenges stemming from population ageing.

Keywords: Demand-Control Model, Effort-Reward-Imbalance Model, welfare regimes, logistic regression analysis

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1 Introduction

Today in many, mostly industrial countries populations are ageing – the mean age of the population increases and there is a move in age distribution towards older ages (Anderson & Hussy, 2000). Population ageing occurs in two stages; in the first stage it is driven by reduced fertility and in the second stage, when fertility stays at a low level, by mortality decline in older ages (United Nations, 2002). Population ageing is today in the developed world primarily characterized and driven by the second stage (United Nations, 2002) and this comes with a number of challenges that states and welfare systems have to deal with and overcome in order to sustain welfare levels and continuous economic growth (Gallaso & Profeta, 2004). The mean age of the population is rising and the dependency ratio – the share of unproductive people (young and retired) that need to be supported by the productive part of the population – will grow, and this is such a factor that puts a significant pressure on existing welfare levels (Ingham, et al., 2009). Furthermore, health care costs will spiral upwards when people live into older ages. Hand in hand with these consequences, a larger share of the labour force will consist of older people – people who are likely to have different needs, production levels and health adversities (Gray, 2005).

Although this might paint a grim picture of the future, the problem is not without solutions. Scientists as well as politicians have proposed a number of potential solutions and answers to the challenges associated with an ageing population. Such solutions are attempts to increase labour productivity and increase the retirement ages (Börsch-Supan, 2001). Increased labour force productivity would help to ease some of the pressure from the enlarged dependency ratio. Higher retirement ages would help to reduce – or diminish the growth of – the dependency ratio. Higher retirement ages does not necessarily mean an increased legal minimum retirement age but could also include measures to reduce early retirement and increase the effective average age of retirement, which is often lower than the actual retirement age (OECD, 2015).

One factor and criterion for people, especially older workers, to be able to be more productive and to work longer is the health of the individuals in the labour force. Qi et al. (2016) shows that for Sweden, even though all groups of people work into older and older ages, healthy people

indeed work longer than more unhealthy people. In addition, individual health is shown to be an important factor for retirement decisions (Schultz, et al., 1998). Individual health is influenced by a range of aspects that often lie outside the scope of policy interventions. One aspect that is likely to influence the health of workers and that also could be said to be within the frame of policy interventions are factors relating to the work place such as work conditions and work environment.

1.1 Research Problem

Within the field of occupational health – a field that studies the relationship between work-related factors and certain health outcomes – two models, the Demand-Control Model and the Effort-Reward-Imbalance (ERI) Model have been developed and widely utilized. As the names suggests, the models measure and contrast psychosocial work factors such as the demands and controls respectively the effort and rewards experienced at work and their relationship to health outcomes and work-related stress (Marmot & Wilkinson, 2005). While the models have been tested extensively they often concern relative small and homogenous population (Van der Doef & Maes, 1999). Fewer studies have been done for country and welfare regime differences and studies that consider welfare regimes differences in health have not tended to focus, at least not exclusively, on the occupational perspective and the Demand-Control and ERI Models. The notion of welfare regimes stems from the work of Esping-Andersen who categorized OECD countries into three different regimes. Dahl et al. (2006) has related welfare regimes to health inequalities in a broader perspective and Bambra and Eikemo (2009) has investigated the effect of unemployment on health for different welfare regimes, but neither study specifically relates to the intermediate effect of work-related factors. At the same time it is important to consider a gender perspective with regards to health difference both for work characteristics and welfare regimes (Bambra, et al., 2009) – a perspective where research results have been mixed and somewhat contradicting (Matthews 1998). Dragano et al. (2010) do investigate the relationship and interplay between welfare regimes, work characteristics and health, but the study does not consider gender differences. There is thus need of further studies that investigate the relationship between work-related factors and health and the impact of different welfare regimes and gender, and to shine a light on the implications that these findings may have on national and European policies in times with an ageing population.

1.2 Aim and scope

The aim of this thesis is to study the relationship of psychosocial work-related factors, connected to demands and controls and efforts and rewards at work, on the health of older workers, and to relate and analyse such relationships and impacts conditional on gender and welfare regimes.

1.2.1 Research questions

- How do psychosocial work factors connected to the level of demands and efforts at work, and the experienced control and rewards received at work, relate to the self-perceived health of older workers?
- Is there a difference in experienced demands, control, efforts and rewards between men and women and between workers in different welfare regimes?
- Is there a difference in how experienced demands, control, efforts and rewards at work affect the health of men and women?
- Is there a difference in how experienced demands, control, efforts and rewards at work affect the health of workers in different welfare regimes?

1.2.2 Scope

This study aims to explore the relationship between specific work-related variables and their connection health. The thesis is only able to study people that were actually working in the time when work conditions and work environment was measured. While this is due to the design of the data, it naturally somewhat limits the scope of the study and may also give rise to selection bias. A longer discussion of eventual bias stemming from this is conducted in chapter 3. Due to the design of the study, the thesis explores relationships and associations between work characteristics and health outcomes and the results may not be interpreted as causal relationships. Further discussions regarding this will follow throughout the thesis. Lastly, the study concerns European countries and the scope of the study can therefore be said to primarily concern and be generalizable for developed countries.

1.3 Outline of the Thesis

Having introduced and specified the thesis topic, aim and scope, the thesis will continue in chapter 2 with theoretical consideration and related previous research that has been carried out in relationship to subject. In chapter 3, the chosen data and source material will be outlined and described in depth. The chapter first focuses on data reliability, representativity and validity and provides descriptive statistics of interest. Chapter 4 regards the method of the thesis and the chapter thus describes the approach and model used. Part 5 continues with the empirical analysis – regressions results are presented and the ramifications and implications of the results are discussed and analysed. Finally, chapter 6 concludes the thesis by highlighting the main conclusions and relate them to the specified research aim, hypothesises and findings of previous research, before suggesting future research and practical implications that in the light of the conclusions are appropriate.

2 Theory

Chapter 2 covers the theoretical approach and considerations of the thesis and previous research that relates to the topic. The chapter begins with a presentation and discussion of the theoretical approach of the thesis before it details previous research that relates to the presented theories and models.

2.1 Theoretical approach

2.1.1 Occupational health

Since the thesis concerns different work-related factors and health, theoretical considerations are primarily tied to the subject of *occupational health*. Occupational health, or Occupational medicine as it is also called, is a discipline that investigates how occupational conditions and related factors influence the health of workers (Rittner & Larsson, 2015). While this discipline has often focused on risks related to work place hazards stemming from things such as chemicals, toxics and physical demands it has also turned its attention to, and formulated theories regarding psychosocial work environments, work related stress, and effects on mental as well as physical health (WHO, 2007). Regarding theories developed within Occupational Health, two models in connection to the psychosocial work environment and occupational stress has received much attention and been widely used as theoretical starting points, and also been tested extensively with relationship to different health outcomes. These two theories are the Demand-Control model and the Effort-Reward-Imbalance model.

2.1.2 The Demand-Control Model

The Demand-Control Model is a model that was introduced by Robert Karasek (1979) and further extended by named Karasek and Theorell (1990). As the name suggest, the model centres on the demands put upon a worker and the amount of control over its work situation and tasks that the worker experiences. Both of these sides had to a limited extent been

acknowledge and studied before Karasek introduced the theory. But research had primarily focused on either the demand or the control side and in order to integrate the both into a theoretical framework Karasek developed the Demand-Control Model.

In the model, work-related stress is a result of the demands that an employee faces in its work and the amount of control over its work situation that the employee has. A work that has a negative impact on work-related stress is thus a work where the demands are high and the level of control is low. Demands usually refer to work-load and are mainly operationalized by looking at time pressure and role conflicts. Job control, which can also be referred to as decision latitude, relates to the workers ability to control its work activities. This control, decision latitude tends to relate to skill discretion and decision authority (Van der Doef & Maes, 1999). A widely considered example of a high demand/low control occupation is the one of a production line worker, where certain quotas have to be fulfilled, often in a high tempo, and the production-line worker has little control over the tempo or how to produce the product (Kain & Jex, 2015). With the same, but opposite, logic the model can also predict positive impacts on work-related stress where high levels of control can help to ease the strains of high demands. Still, the Demand-Control model has mostly been used to study negative impacts – work-related stress and the relationship to different health outcomes. The model can be illustrated as in figure 1.

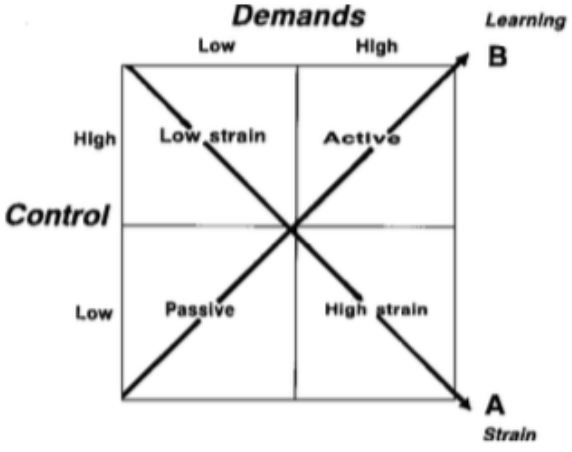


Figure 1. *The Demand-Control Model. Taken from* (Van der Doef & Maes, 1999)

Figure 1 divides occupations in four categories (squares) that are all combinations of certain levels of control and demand. Low strain occupations are occupations that are characterized by low levels of demands and high levels of control. Passive occupations are jobs with both low demands and control. Active jobs are occupations where the demands are high but so is the level of control. Lastly, high strain jobs are jobs that are characterized by high demands and low levels of control.

2.1.3 The Effort-Reward-Imbalance Model

The Effort-Reward-Imbalance Model was initially introduced by Siegrist (1986) as a sociological framework to explain the onset of cardiovascular diseases and it was not until 1998 that it was extended to also consider a broader spectrum of health outcomes (van Vegchel, et al., 2015). According to Siegrist (2000), the ERI model is derived from an approach of analysing psychosocial dimensions of health, which sees health and well-being as being largely dependent on successful social exchange through different, distinctive roles – one of these roles being the work role. The work role is of particular interest since it contributes to a number of factors influencing social exchange and health: self-development through work, recognition, social identity and sense of belonging, payments and participation in networks (Siegrist, 2015). These factors can be said to represent rewards at work and are contrasted against the efforts facing the employee. The efforts consist of and are measured by job demands, obligations and consequent labours carried out within the occupation. The worker provides work through efforts and expects rewards to match those efforts. The ERI Model stipulates that both efforts and rewards can have independent effects on health but the effect can be even higher when the two sides are "combined". As the "Imbalance"-part of the model name suggests, an imbalance can occur between efforts and rewards – where rewards do not match the efforts invested – and this imbalance creates an even more strained and stressful environment that can potentially have harmful effect on the health of the worker (van Vegchel, et al., 2015). Also, if the worker is overcommitted to the cause and the work the imbalance can have even more serious health effects. The ERI Model is illustrated in figure 2.

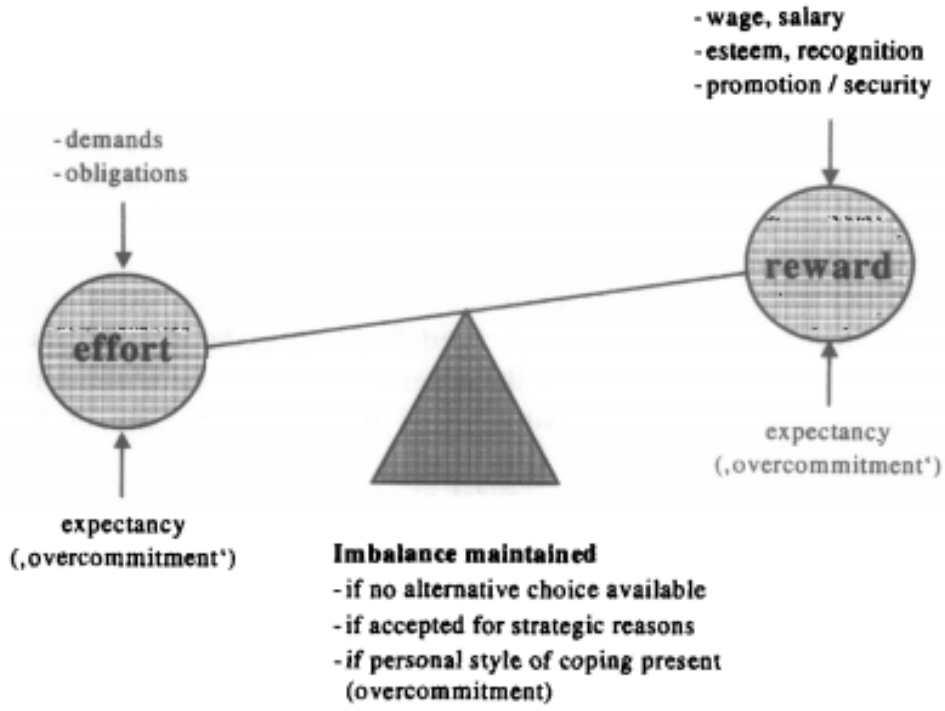


Figure 2. The ERI Model – taken from Siegrist *(2015)*.

Figure 2 illustrates the ERI Model where there is an imbalance between efforts and rewards – the efforts are higher (weighs more) than the rewards and an imbalance occurs. As can be seen from the picture, the demands and obligations pushes the circles of efforts downward while expectations and overcommitment can somewhat reduce it. On the opposite side the rewards are weighted and based on rewards in terms of wages, recognition and esteem, security and promotion prospects that the work creates, and where expectancies and overcommitment can also have a negative impact on the rewards experienced.

It may be argued that both models lack the measurements to handle and measure direct work-related health threats such as the exposure to toxic and chemical substances, noise, cold or heat and therefore misses out on an important part of work-related impact on health. And while this might be true in many parts of the world, it is not as clear in more industrialized countries where such threats are no longer the dominant work-related threats to health that employees experience (Siegrist, 2015). Instead hazardous psychosocial work environment are much more prevalent in modern working life (Dunham, 2001), making a broader and more general model concerning psychosocial factors relevant. Furthermore, in the generalizability lies strength –

the models can cover and be applied to a broad spectrum of occupations for different (industrialized) countries.

2.1.4 Welfare state regime theory

The idea of welfare state regimes was brought into academic, and public, attention with the work of Esping-Andersen (1990) and his work *The Three Worlds of Welfare Capitalism.* Esping-Andersen identified three different regimes based on three principles – de-commodification, social stratification and the public-private mix. De-commodification refers to the extent which an individual´s own welfare is dependent on the market (with regards to sickness insurance, unemployment benefits and pensions). Low de-commodification means a high reliance on the market and the reverse. Social stratification regards the role of the welfare state in upholding or counter social stratification and ordering. The mix of public and private means the relative and different roles of the state, the market, voluntary and family sources in providing welfare (Bambra, 2007). Based on these three principles Esping-Andersen identified and divided welfare states in three ideal-type regime clusters – a liberal regime, a conservative (also named corporatist) regime and a social democratic regime.

The liberal welfare state is characterized by modest social insurances and benefits and universal transfers that mostly target low-income state dependents. Traditional liberal work-ethic norms prevails and has led to restrictions in social reforms and created states that either passively or actively encourages the market to handle issues and provide solutions and services. A liberal welfare state is thus one that minimizes de-commodification effects and erects and maintains a dual stratification of relative poverty for state dependents and market-differentiated welfare for the majority. Classical examples of liberal welfare states are the United States, Canada, Australia and to some extent United Kingdom. (Esping-Andersen, 1990).

The conservative welfare state stems from a historical corporatist legacy that was “upgraded” to a post-industrial structure where the preservation of status dominated rather than a liberal will of commodification. Even though the conservative states is ready to act as a provider of welfare, its will to maintain preserve status means that the redistributive impact is small. The conservative (or corporatist) is also typically shaped by the Church and thus committed to the maintenance of traditional family norms and the reliance on the family to provide services to its members. Typical corporatist welfare states are Germany, France and Italy.

Social-democratic welfare states share principles of universalism and de-commodification of extended social rights. As opposed to the other two regimes – the social democratic regime promotes an equality of highest standards rather than equality of minimal needs. The social-democratic regime tends to crowd out the market in favour of the welfare state and its policies also addresses the family much more direct (by transfers directly related to children, for example) than the other two regimes. This creates a welfare states with the relatively largest maintenance-cost and is thus reliant on minimizing social problems and maximizing revenues. Social-democratic welfare states typically include the Nordic states and often also the Netherlands (Esping-Andersen, 1990).

It should be noted that Esping-Andersen's classification of welfare regimes is not without its critics (although it is widely used and applied) and not the only classification that exists. Other typologies have emerged that considers and includes other aspects, such as politics and the role of public services, and different countries, such as East-Asian states – aspects and countries not examined by Esping-Andersen (Bambra, 2007). For example, Ferrera (1996) argues for, and distinguishes a Southern welfare regimes that, as opposed to Esping-Andersen, is slightly different from the Corporatist regime. A classification according to Esping-Andersen should therefore be interpreted with some caution and not be seen as the only way to classify states into different welfare regimes. Still, there is a tendency to classify countries in similar fashion and groups as Esping-Andersen (see Bambra, 2007).

2.1.5 Welfares states, labour markets and health

Esping Andersen's argues that the labour market of a state is directly and systemically related and formed by the welfare state. Thus it is possible to detect country differences in labour markets behaviours and outcomes depending on the welfare regime for each country (Esping-Andersen, 1990). Esping-Andersen mostly relates welfare differences in labour market outcomes in terms of exits and entries into the labour market, for example when it comes to retirement and sickness absence decisions. These decisions are in turn shaped by the retirement benefits, sickness absence payments, parental leave benefits and job rights – factors that differ between the different welfare regimes where benefit and sickness payments in general are more generous in Social Democratic countries than in Corporatist or Liberal states. Esping-Andersen discussed that by generous absence payments – such as parental leave benefits – states can increase labour participations rates – especially for women – but with the consequence of

increased absenteeism. In one way, the welfare state has then (in Social Democratic countries) taken upon itself to permit workers to pursue non-work related activities within the work contract (Esping-Andersen, 1990).

Esping-Andersen does not explicitly theorize regarding the influence of welfare-regimes (and subsequent labour markets) on psychosocial factors at work and the impact that such factors have on health. But in line with Dahl et al (2006) and Dragano et al. (2010) this thesis theorize that in Corporatist and Liberal welfare states where de-commodification is low – social benefits and security and employment protection, are less extensive than in a Social Democratic state, the pressure and importance of work is higher – to not work is less of an option and potential absenteeism within work less likely. Firstly, this could create a situation where lack of experienced control and lack of rewards at work are more common in Corporatist than in Social Democratic states. Secondly, conditions and experiences at work may have a stronger effect on wellbeing and general health in Corporatist and Liberal states than in Social Democratic ones.

2.2 Previous Research

2.2.1 Previous research related to the Demand-Control Model

Rather than presenting specific previous research, this part of the chapter will focus on larger and more extensive summarizing reviews of related studies. This is done in order to paint a more generalizable picture of the influence and findings of the Demand-Control Model.

Van der Doef and Maes (1999) reviewed the findings of 63 studies that examine the significance and reliability of the Demand-Control Model, focusing on evidence for the strain effect – that low control and high demands lead to reduced well-being – and the buffer effect – that high control can dampen negative effects of high demands. The reviewed studies were carried out 1979 – 1997 and focused on a number of different health or work related outcomes such as psychological well-being, general health, depression and work satisfaction. Van der Doef and Maes finds widespread support for the strain hypothesis, especially when carried out in an additive way – where demands and controls are studied independently – but there are also studies that fail to find a significant relationship between the Demand-Control Model and the studied outcome. The results for buffet effects are less conclusive where an equal number finds support for it as the number of studies that do not find support. Van der Doef and Maes and

relates this differences in results to the different ways to look at and measure demands and controls and to the methods that were used when carried out the studies. Lastly, the authors also conclude that the results differ for men and women where in many studies female employees are found to be less negatively affected by high strain jobs.

A large majority of the studies reviewed by Van der Doef & Maes are of a cross-sectional nature. There have also been longitudinal studies related to the Demand-Control Model. De Lange et al. (2003) has reviewed and summarized the findings of 45 longitudinal studies related to the model and where changes in controls and demands at work are followed over time and related to health and well-being. Furthermore, De Lange evaluates the quality of the studies, in terms of method, measurements qualities and statistical analysis, with the aim to only draw conclusions on the studies that the author considers most reliable and valid. Of the 45 reviewed studies, 19 of them fulfil De Lange's requirements of a high quality study and of the 19 studies, 12 confirm to the Model and report significant relationships between the different measurements of controls and demands and self-reported health and well-being and objectively measured health indicators (such as blood pressure and chest pain). Six of the studies also find evidence for an interaction effect (and not only an additive effect) of demand and control. To a large extent, the reviewed findings of De Lange mirror the findings of other reviews (such as Van der Doef & Maes). De Lange et al. considers and discusses that the evidence provided by the reviewed high-quality studies can be seen as indicators of a causal relationship between demand and control at work and different health outcomes. And since these high quality results are similar to the ones in cross-sectional studies that implies that findings and conclusions of cross-sectional studies are not as far-fetched as they could potentially been seen as, at first sight (de Lange, et al., 2003).

2.2.2 Previous studies related to the Effort-Reward-Imbalance Model

In a similar fashion, there are reviews that have summarized the findings of number of studies related to the Effort-Reward-Imbalance model. Even though the ERI-model is not as "old" as the Demand-Control Model it has still been widely tested. Vegchel et al. (2015) has summarized and evaluated the results and findings of 45 ERI Model-related studies ranging from 1986 up to 2003. It covers studies that look at different health outcomes such as cardiovascular diseases (CVD), psychological, general and job-related health and well-being. More than half of the reviewed studies concern CVD where logistic models are used to estimate the likelihood of

experiencing such a disease based on certain efforts and rewards at work. The estimated and mostly significant odds range between about 1.2 to 9 indicating rather strong effects of high efforts and low rewards at work. A share of the reviewed studies relates low-reward, high-effort situations to mental and general health and a majority of these studies also find significant relationships between such work-situations and a higher chance of experiencing worse mental or general health (van Vegchel, et al., 2015). A majority of the studies reviewed by Vegchel et al. are cross-sectional and cover a relative small and population, either within a certain occupation, place or sex. Naturally, this has consequences for the conclusions that can be reached based on the studies and the generalizability of the results. Still, if different studies cover different subpopulations and where similar results are found this provides an indicator of the model and support for more general conclusions.

2.2.3 Previous research related to the Welfare-regimes, gender and health

As mentioned earlier, there is a lack of research that connects welfare regimes to the Demand-Control Model and the ERI Model and subsequent health outcomes. There is however studies that have explored the relationship between welfare regimes and health outcomes and inequalities. Muntaner et al. (2011) has reviewed a large number of studies that investigate the relationship between politics – different welfare regimes or other characteristics such as democracy – and health. The review thus considers a multitude of studies containing different countries and contexts. With regards to industrial states, Muntaner et al. find links between welfare countries that are more egalitarian (Social Democratic) and better health. However, relative health inequalities are not found to be consistently smaller in Social Democratic states than in states with other welfare regimes. These somewhat mixed findings are also supported by Dahl et al. (2009) in a study regarding reported health inequalities between Esping-Andersen's three welfare regimes. Dahl et al. (2009) find some differences where Nordic countries seem to perform slightly better but the results are not consistent throughout different measurements of health. However, as also Dahl notes, the results can be mitigated somewhat by the small sample of countries that are included in the study (only one country each for the Corporatist and Liberal regimes). With regards to gender differences in self-reported health for states with different welfare regimes, Bambra et al. (2009) find differences across a range of European countries. In both Social democratic and Southern European (Corporatist) countries,

women were more likely to report bad health than men. In the study, Bambra et al. do not relate these differences to work conditions (it is not the aim of the study).

It was mentioned earlier that Van der Doef and Maes (1999) found that women appeared less affected by high strain works than men. This relationship is however not clear and other studies and reviews that focus solely on gender differences and psychosocial work conditions have found opposing results. Karasek and Theorell (1990) find that women experience significantly less control (decision freedom) at work than men but that the psychosocial demands are about the same for both sexes. Matthews et al. (1998) also find that women experience less control at work and also fewer opportunities to develop new skills and that the effects on health are slightly larger for women than for men.

Dragano et al. (2010) is one of few studies that, in one way, aims to relate psychosocial work characteristics to different welfare regimes and health. The study looks at workers in 12 different European countries and groups them into four welfare-regime types – the three Esping-Anders regimes and a fourth indicating a Southern European regime. Work-related factors are measured by Likert scales indicating Effort-Rewards imbalance or low control and the measured health outcome is depression. The study does find significant associations between the impact of psychosocial factors at work and depression and that those differ between the welfare regimes. The effects of work-related factors on depression are less pronounced in Social Democratic states – social protection-oriented welfare states – and more prevalent in liberal or Southern welfare regimes (Dragano, et al., 2010).

2.2.4 Previous research regarding self-rated health.

The outcome variable of the thesis is self-perceived health, which is a binary variable indicating if a person's health is good (very good) or bad (less than good or poor). The validity of such a variable is partly dependent on its relationship and predictability of other, more objective, health outcomes such as mortality. Previous research and studies have found that self-perceived health strongly relates to objective health outcomes and that it can be a good predictor of outcomes such as mortality. Idler and Benyamini (1997) has reviewed 27 longitudinal studies, published 1982-1996, that uses or incorporates self-rated health as an independent variable (a long side other more objective health predictors) on mortality risk. While in some studies the mortality effect of self-perceived health diminishes when other

health predictors are included, for all but four studies self-rated health has an independent effect on mortality even after all covariates (such as age, gender, socioeconomic status and other health predictors) are included. Although not a perfect variable, Idler and Benyamini concludes that a variable such as self-perceived health is a reliable predictor of mortality and survival rates in populations (Idler & Benyamini, 1997).

2.3 Hypothesises

Having presented theory and previous research. This study presents the following hypothesises in relationship to the research questions and regarding the impact of demands and control, effort and rewards, and different welfare regimes on health.

For the demands, control and effort-reward aspects (variables) incorporated in the study. The assumed impacts are the following:

H1:	Assumed impact on health
• Satisfied with main job.	(+)
• Time pressure due to a heavy workload in main job.	(-)
• Little freedom do decide how to your job.	(-)
• Opportunity to develop new skills in main job.	(+)
• Receive support in difficult situations in main job.	(+)
• Receive recognition for my work in main job.	(+)
• Salary or earnings are adequate in main job.	(+)
• Poor prospects for job advancement.	(-)
• Poor job security.	(-)

In relationship with these factors, the prevalence of psychosocial work conditions – and the impact on health of such conditions - between welfare regimes are anticipated to be the following:

H2: Social democratic welfare states should be less characterized by strain-related psychosocial work factors than Corporatist states.

H3: The impacts of demand and controls and effort and rewards at work on health should be more pronounced for workers in Corporatist states than for workers in Social Democratic states.

And finally, the impact of gender is assumed to be the following:

H4: Women should experience less control and rewards at work than men and the effect on health of such factors will be more pronounced for women than for men.

3 Data

Chapter 3 will first present and critically assess the data and discuss why it is appropriate for the thesis with regards to the reliability, representativity and validity of the data. Secondly, the chapter provides descriptive statistics of interest for the aim of the thesis.

3.1 Source Material

The thesis uses individual level data taken from the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE is a multidisciplinary and longitudinal database that provides micro data on a range of different aspects and factors of life for people aged 50 or older (and their sometimes younger partners) in Europe and Israel. Over 220 00 interviews has been conducted over fives waves for 86 000 individuals. The panel database covers aspects related to health, socioeconomic status, social and family networks and one of the aims of SHARE is to analyse the process of population ageing in depth (SHARE, 2013). SHARE has been carried out five times, in five ways. The first wave was conducted in 2004/05 and the next waves have followed every second year with wave 5 carried out in 2013. Wave 3, called SHARELIF, differs from the other waves in that it covers early life conditions on the "expense" of many of the factors investigated in the other waves. Figure 3 provides a geographical idea of what countries that are included in Share[1]. It can be mentioned that not all countries have been followed throughout all waves.

[1] List of countries can be accessed by http://www.share-project.org/home0/overview.html

Figure 3. Countries that are covered in SHARE.

3.1.1 Data reliability

Regarding data reliability, there are a number of reasons to use SHARE with a purpose and aim such as the one of this thesis. As mentioned, it is a primary, quantitative, micro-level panel data base and thus suitable for the statistical analysis that is carried out in order to answer to the aim of the thesis. It contains a large amount of observations and although the number will be readily reduced in the statistical analysis the number is large enough to conduct a thorough and reliable logistic analysis. SHARE is also a very detailed and uniformed dataset that has been collected with research in mind, which in turn enhances the reliability of the data collection and the accuracy with which data has been collected (Börsch-Supan,, et al., 2013). Of course, it does not enhance the reported values in themselves since they are based on the statements by the interviewed objects. Rather it gives an indicator that the collected data is what is actually stated by the interviewed object.

There are couple of important factors to consider and discuss regarding the reliability of the collected values. Many variables included in the dataset, and that is used in this thesis, are self-reported observations and measurements of different aspects of life. This means that many

variables are subjective measurements and thus potentially endogenous. It is possible that people with certain characteristics are more inclined to report a certain result than a group of people with other characteristics. This potential problem can be illustrated with the idea of the possibility that workers with already bad health on average are more sceptical and negative about their situation at work. This problem, this bias, is often referred to as justification bias (Kapteyn, et al., 2009). The seriousness of this problem has been discussed at length in academic literature and the judgements have been rather mixed. For example Pagan (2011) considers it a minor problem and, in fact, many studies rely on subjective measurements – both as dependent and independent variables – in their analysis and statistical testing (see for example Kerkhofs & Lindeboom (1997). In many cases, self-reported variables are what are available. Kalwij and Vermeulen (2007) tests specifically the potential endogeneity of self-reported health for the first wave of SHARE and they conclude that the measurement is a relatively good indicator of health in a majority of the countries but slightly endogenous for some countries, which is something to be aware of when interpreting results.

3.1.2 Data representativity

Using SHARE data naturally reduces the representation and scope of the thesis to the countries included in the thesis. It is likely that a European sample differs from samples from other parts of the world in terms of educational levels, socioeconomic status. This is not a problem as long as the thesis is aware of and limits its conclusions and scope to a European context. The sample for each European country is a randomized sample and should thus be representative for the country as whole. However, the sample sizes are relatively small for each country and year and this could potentially have impact on how representable the sample is for each country. Still, there is no structural bias in the sample for each country since they are gathered randomly at the start of the data collection (Börsch-Supan, et al., 2013).

Another note regarding representativity relates to the fact that the data only contains people that are actually working in the time when work conditions are measured (in t_{-1}). This because the work-related questions of importance are only asked to those who are actually working. While it is not a problem per say to only look at working people, after all the thesis focuses on the work factors so a focus on working people is natural, but it might give rise to a selection bias. The bias occurs if the sample of people that is working on average is different than the people

that are not working. It is possible that people that were mostly affected by unhealthy work conditions and subsequent bad health is no longer working due to these work conditions and (or) has left the sample in upcoming wave (Vella, 1998). This is tied the notion of attrition.

For a longitudinal where the sample is randomized at starting point of data collection, attrition is not a problem per say. But for attrition not to be a problem the drop out has to occur randomly. This is not likely the case in reality but instead respondents with certain characteristics are more likely to drop out than respondents with other characteristics. Thus, sample attrition can threaten the external validity of the data (Miller & Wright, 1995). The attrition rates for the samples used in the thesis are displayed in table 1.

Table 1. Sample attrition rates between pairs of waves

Waves	Attrition rate
Wave 1 - 2	0,319
Wave 2 - 3	0,356
Wave 4 - 5	0,318

As table 1 display, about a third of the sample or of workers fall away between the waves. This is not an uncommon attrition rate in longitudinal studies and while it on one hand can be seen as somewhat substantial, attrition rates of 30-40 % have been considered acceptable (Amico, 2009). Naturally, it is not the percentage in itself that matter and the seriousness of the problem may differ between studies with the same attrition rate. Regarding SHARE, Börsch-Supan et al. (2013) argues that the attritions rates in SHARE are relatively moderate compared to similar European and US surveys. Tests and analyses of SHARE have also showed little evidence for non-response bias with regards to, among other factors, health status (Börsch-Supan,, et al., 2013). The sample is also refreshed between the pairs of wave with the purpose of easing potential biases stemming from the attrition.

3.1.3 Data validity

To a large extent, the data used for the thesis can be considered valid. As has been discussed, there are potential pitfalls and dangers with the data but with and awareness of those potential problems – their implications and how to deal with them – those dangers can be reduced. The data can be considered valid for research such as this that regards work-related factors and health of older European workers. Part of the aim of the development of SHARE was indeed to

be able to look at this type of questions and conduct related research. Similar research has been carried out using SHARE (see for example Wahrendorf and Blane. 2012) and this is a further indication that the data is considered valid by the research community for studies such as this one.

3.2 Variables and descriptive statistics

Before providing descriptive statistics regarding the spread of certain variables of interest, the dependent variable – self rated health – and the independent variables will be presented.

3.2.1 Self-perceived health

The chosen measurement of health, the dependent variable, is self-perceived general health. The variable is chosen due to its accuracy and relationship to more objective health outcomes (such as mortality) and the relative ease of which it is operationalized as well as the advantages that follow in terms of interpretation. Thirdly it is chosen over other, in some ways more objective measurements of health, because it as a variable of which data is collected for all respondents and where the spread of the variable is relatively good making it advantageous from statistical point of view. Self-perceived health is a binary variable with the outcomes good health and health less than good. Less than good health is considered to be *bad health*.

3.2.2 Explanatory variables

The independent variables of specific interest, the ones related to the Demand-Control Model and ERI Model have been named in section 2.2.6. All the variables are transformed from categorical variables (strongly agree, agree, disagree, strongly disagree) into binary variables of whether the respondent agree or disagrees with the statement included in each variable. The variables all conform, to slightly varying degree, to the two models of occupational health – The Demand-Control Model and the Effort-Reward-Imbalance Model. Time pressure, level of support, job security and (to some extent) poor prospects of job advancement all constitute the demand or the effort aspect of work. On the other hand, freedom at work, opportunity to develop

new skills, recognition, job satisfaction and salary all represent either the control or the reward side of work.

The remaining covariates are the following – age, gender, country, welfare regime, education, occupation (only available for wave 1), job type (for wave 2 and 4), smoking, long-term illness, unemployment rate and area of living. The covariates are included in order to account for socioeconomic factors and previous and current factors that may affect health.

Some of the covariates such as age, country and gender, do not need detailed descriptions. It should be noted that the age range is restricted to ages 50-65. This covers the large majority of the workers in the sample. The exclusion of a small group of older workers can be motivated with that these workers are likely to on average differ slightly from the remaining workers (since they have continued to work into older ages) and after the common age of retirement. To focus on workers 65 or below is also done by, among others, Dragano et al. (2010)

Education is measured and classified according to the International Standard Classification of Education. It is a measurement that takes into account country differences in educational structures and harmonizing them into an internationally valid instrument of comparing education (UNESCO, 2012). The ISCED contains the following categories.

0. Pre-primary educations
1. Primary education, first stage of basic education.
2. Lower secondary education, second stage of basic education.
3. (Upper) secondary education.
4. Post-secondary non-tertiary education.
5. First stage of tertiary education (not leading directly to an advanced research qualification).
6. Second stage of tertiary education (leading to an advanced research qualification).

For the countries in included in the data, level three of education is the average level of education. Level three will also be the educational level of comparison in the logistic regressions.

Occupations are also classified according to an internationally valid and comparable instrument of categorization – The International Standard Classification of Occupations (ISCO-88). In

similar fashion as ISCED, ISCO provides a tool for classifying and aggregating information regarding occupations. It clusters jobs together in aggregate groups based on the skills – the skill level and the skill specialization – necessary to carry out the job (ILO, 2004). There are 10 different groups:

1. Legislators, senior officials and managers.
2. Professionals
3. Technicians and associate professionals
4. Clerks
5. Service workers and shop and market sales workers
6. Skilled agricultural and fishery workers
7. Craft and related trades workers
8. Plans machine operators and assemblers
9. Elementary occupations
0. Armed forces.

For the sake of the analysis the groups are in the thesis turned into four groups according to OECD (1998) – white-collar high skill (groups 1,2 and 3), white-collar low skill (groups 4 and 5 and 0), blue-collar high skill (groups 6 and 7) and blue-collar low skill (groups 8 and 9). Unfortunately, information regarding occupation is only available for wave 1 and this variable is thus only included in the logistic regressions for waves 1 and 2. In the following waves, a complementary, if not equal, variable is included indicating whether a person is an employee, self-employed or civil servant.

3.2.3 Welfare-regime

The different welfare regimes has been described in detail at an earlier point in the thesis. The characterization and grouping of welfare-regimes according to Esping-Andersen would yield the following groups with regards to the countries included in the sample. Note that no liberal welfare-regime country or group is present due to the lack of such countries in the dataset. Table 2 details the groupings for each pair of waves.

Table 2. Welfare-regime classification based on Esping-Andersen.

Wave 1 and 2		Wave 2 and 3		Wave 4 and 5	
Social-Democratic	**Conservative**	**Social-Democratic**	**Conservative**	**Social-Democratic**	**Conservative**
Sweden	Germany	Sweden	Germany	Sweden	Germany
Denmark	Switzerland	Denmark	Switzerland	Denmark	Switzerland
Netherlands	Belgium	Netherlands	Belgium	Netherlands	Belgium
	Israel		Spain		Spain
	Spain		Greece		Italy
	Greece		Italy		France
	Italy		France		Austria
	France		Austria		Czech Republic
	Austria		Czech Republic		Slovenia
			Poland		Estonia

Some of the countries in SHARE were not part of Esping-Andersen's original sample that he used to distinguish and group countries. Those countries have instead subsequently been placed in a regime by other academics and in other research. Israel is placed in the conservative group by Stier and Epstein (2001). The former Soviet States have also been placed in the conservative group if using Esping-Andersen's classification (Toots & Bachmann, 2010). As in the case for Southern European countries, there have been discussions whether this is appropriate or not to group some of the Southern and Eastern countries in the Corporatist welfare group (Fenger, 2007). But there is a tendency to classify them as conservative corporatist welfare regimes if strictly applying Esping-Andersen's classification (Fenger, 2007). This is also what is done in this thesis.

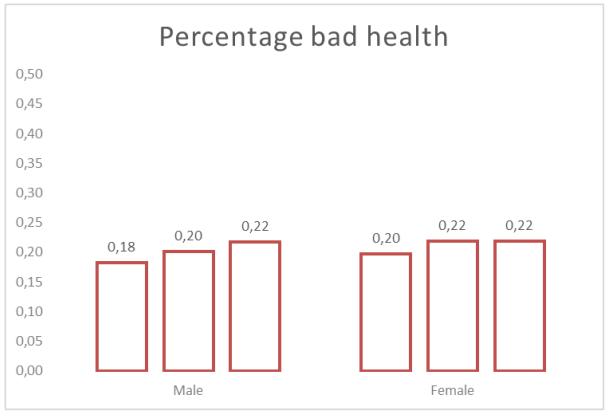
Long-term illness indicates whether a person has suffered from a long-term illness earlier in its life. This variable is included in other to somewhat account for previous health adversities in life that could affect and have an impact on current health. Regressions are also run with unemployment rates. The employment rate is calculated using a three year average for the three years included in each pair of waves. The employment rates are taken from OECD and data from the World Bank.

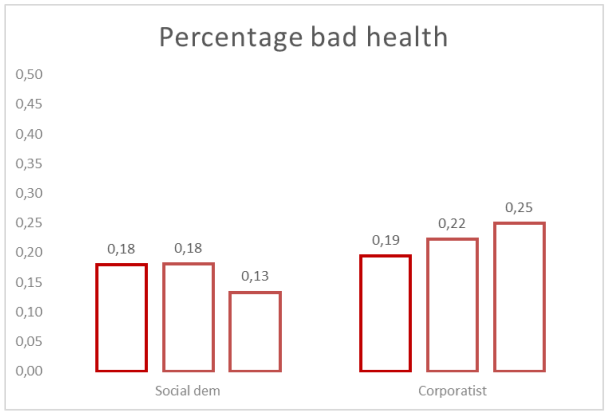
3.2.4 Descriptive statistics

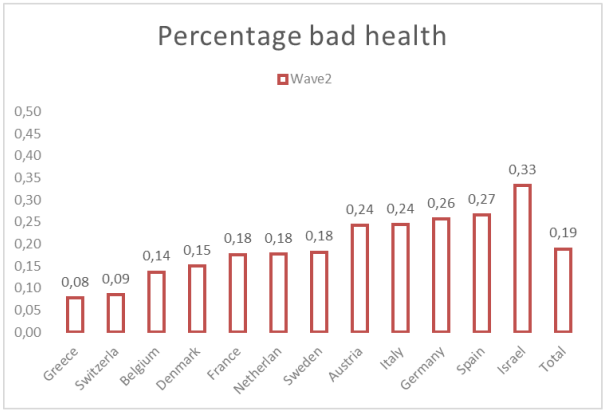
The descriptive statistics begin by detailing the percentages with bad health (health less than good) for the three waves where the outcome variable is measured (wave 2, 3 and 5) and with regards to gender, countries and the two welfare regimes.

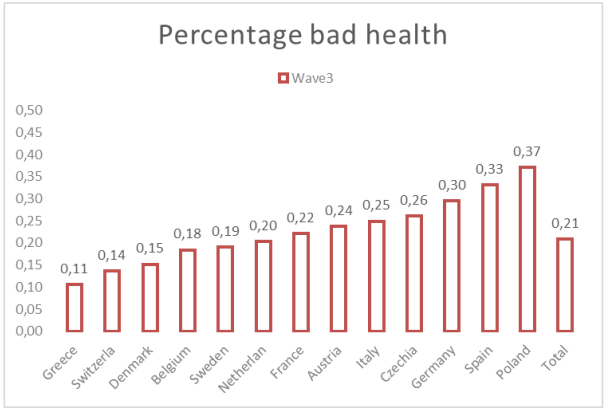
The percentage of the sample that perceives their health as bad is on average, and rather consistently, about 20 %. A slight increase of 1 % per wave concerning the total average can be noted. The difference between the sexes is small and in wave 5 the same percentage of men and women perceives their health as bad. There are clear and visible differences between countries where some countries such as Greece, Switzerland, Denmark and Belgium consistently places themselves as the countries with the lowest share of workers with bad health while countries such as Israel (wave 2). Spain, Germany and Poland (wave 3) and Estonia (wave 5) are countries with the highest percentages of self-rated bad health. Especially Estonia in wave 5) has significantly different outcomes than the other countries. These country differences are also somewhat related and visible for the different welfare-regime classifications. The Corporatist (conservative) states seem to be characterized by workers with slightly worse health (than the social democratic welfare states).

Table 3. Percentages with bad health









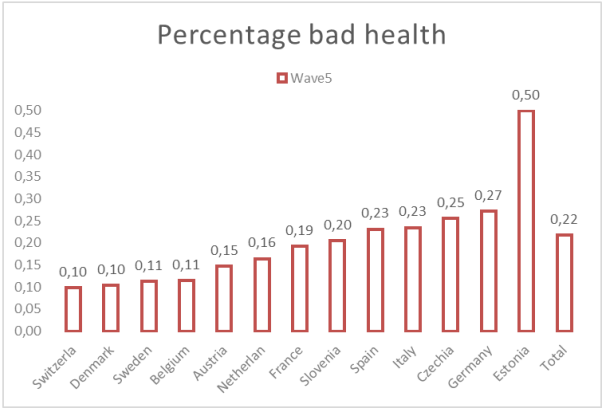


Table 4 depicts the percentages that agree (or strongly agree) to the work-related aspects for each welfare regime typ. These characteristics are measured in wave 1, 2 and 4. The differences between the two welfare regimes are relatively small and there is no clear pattern. Corporatist states agree slightly less often to the control and reward aspects of work. At the same time, the corporatist states do more or often, than the social democratic states, agree to the demand and effort sides of work. The differences between the two welfare regimes are more pronounced for the positive aspects than the negative aspects and the differences are relative consistent between the three waves. Most people (more than 90 %) seem to be satisfied with their work. A large majority (about 80 %) of the respondents in the Social Democratic states also believe they have the opportunity to develop new skills, that they gain support and recognition at work. That holds true as well for the Corporatist countries but the majorities are relatively smaller. In fact, the largest differences between the two welfare regimes can be arguably be found with regards to skill development, support and job security. Although workers seem to be satisfied with their work, time stress is not uncommon and a majority in both welfare regimes believe the prospects for job advancement are poor. Slightly more workers in Corporatist states consider themselves to have no, or little freedom, about how to carry out their work than workers in Social Democratic states. The experienced time-stress diminishes slightly throughout the three different time periods, especially for workers in Corporatist states.

The gender differences between the shares of men and women that experience the psychosocial work factors are displayed in table 5. The differences are small, smaller than the differences between the welfare regimes. Women do not seem to more commonly lack control at work or the opportunity to develop new skills. A slightly larger share of women than men think promotion opportunities are poor and more women are also less satisfied with their wage.

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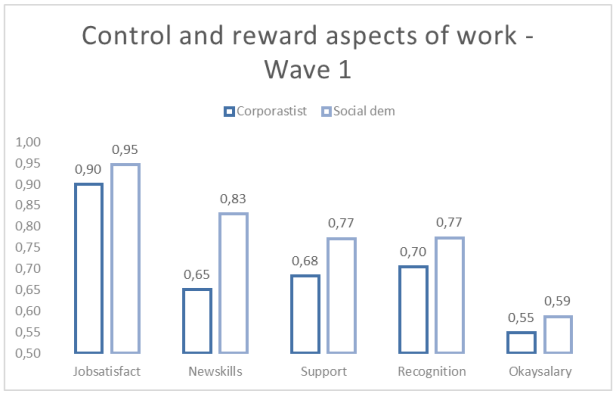
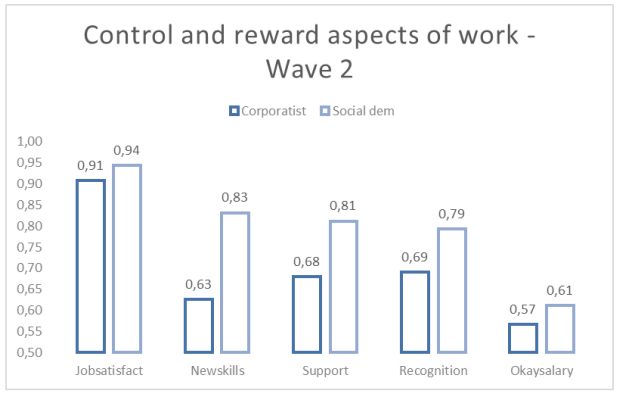
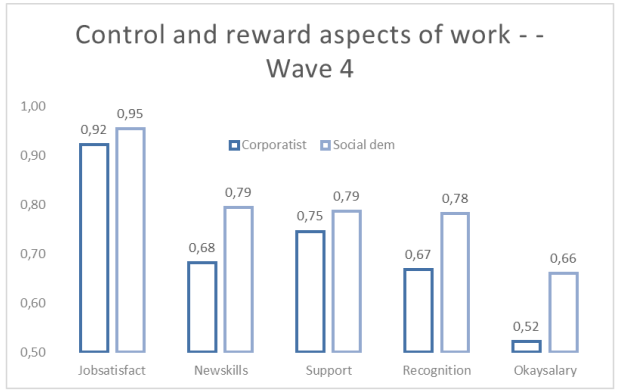
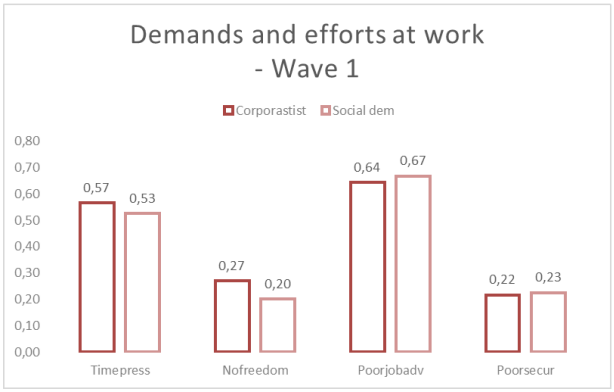
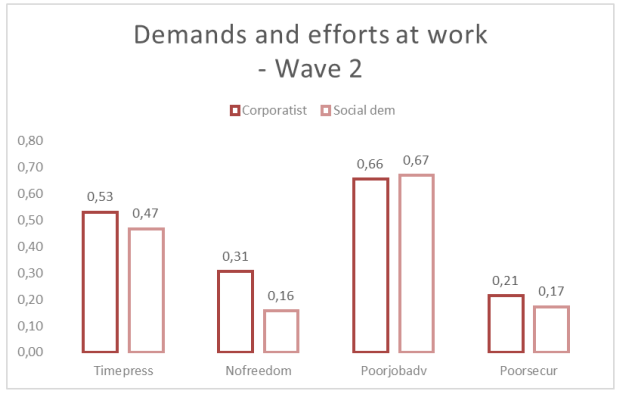
Table 4. Psychosocial work aspects in Esping-Andersen´s welfare-regimes











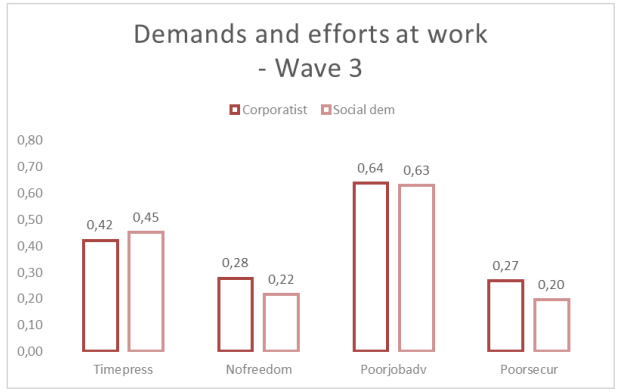
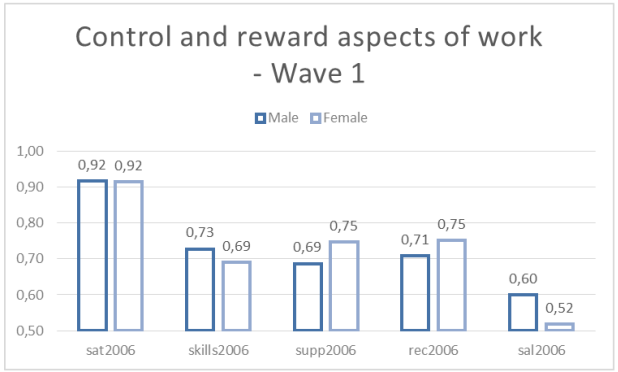
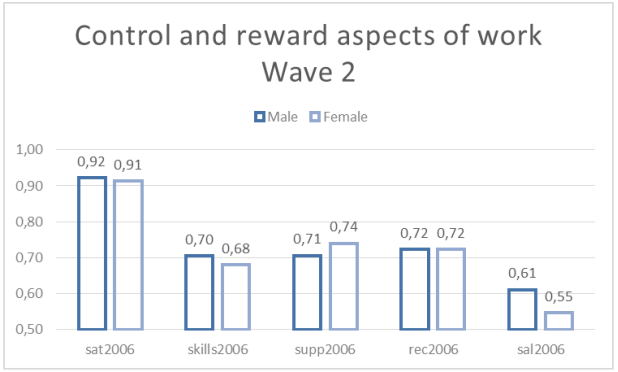
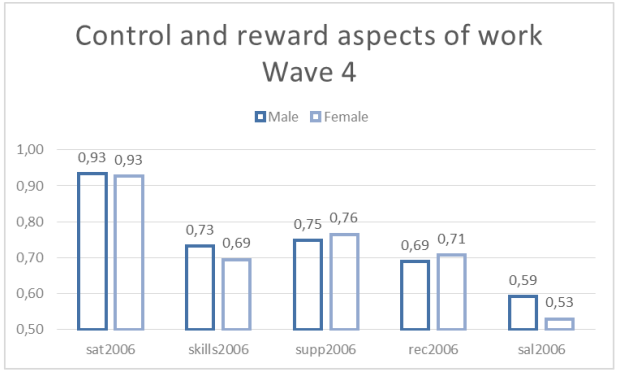
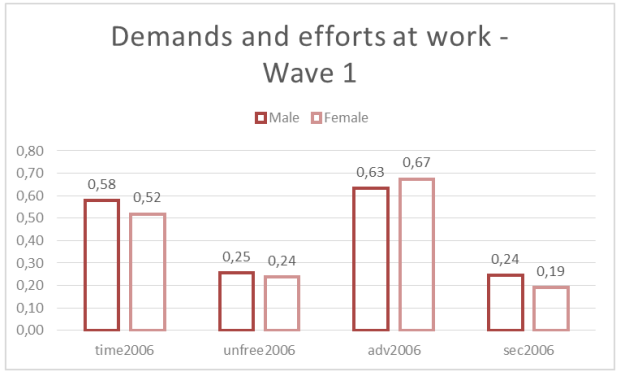


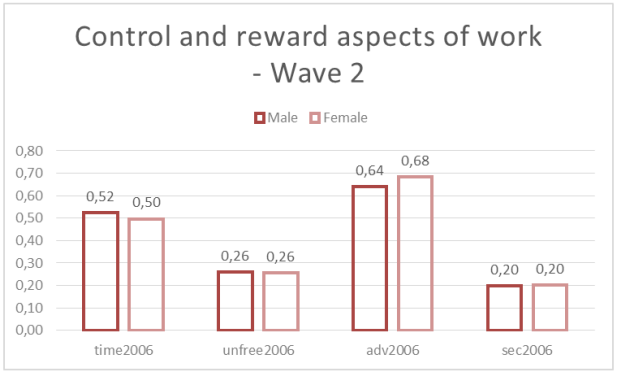
Table 5. Psychosocial work factors and gender











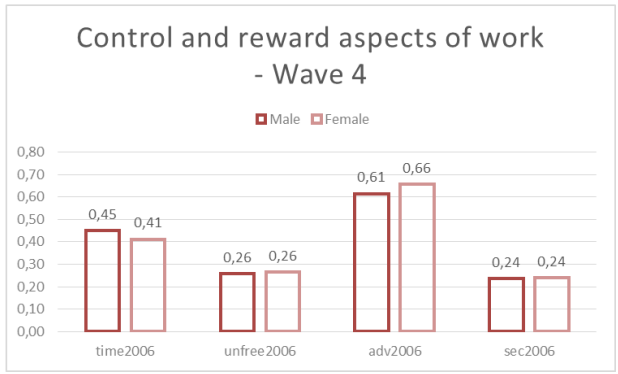
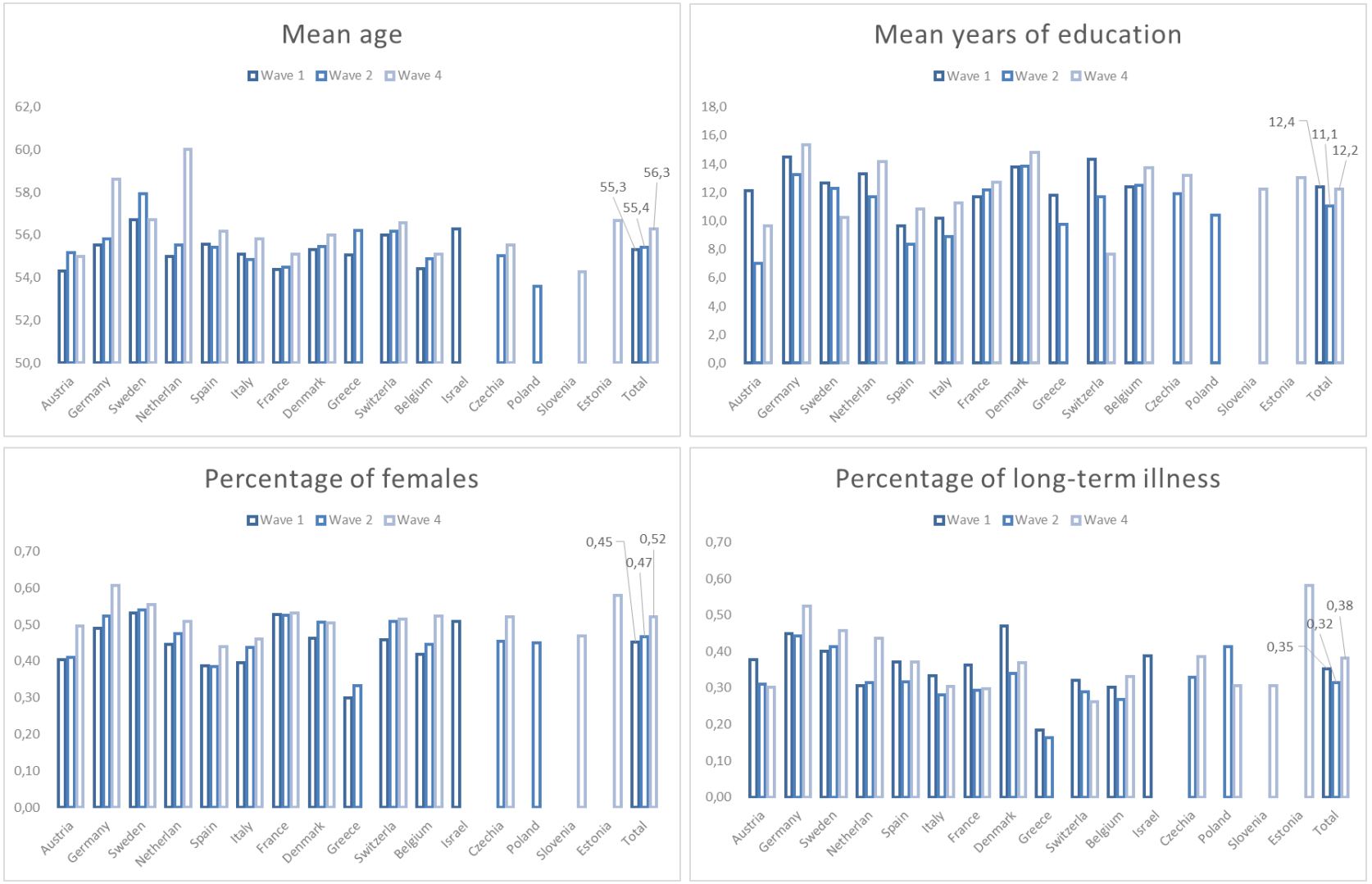


Table 7 provides brief indicators regarding four variables that are included in the model – age, education, gender and long-term illness – and the eventual country differences and differences between the waves. There are differences between countries and between the waves. The samples from Italy and France are on average younger than the sample average age, and especially compared to countries with mean ages above the total sample mean such as Sweden, Germany and Switzerland. Overall, the mean age ranges between 55.3 to 56.3 for the three samples indicating that, even though the sample covers ages 50-65, the majority of the sample is well below 60. When it comes to education, the sample mean fluctuate some for the three waves around 12 years of education. The average years of educations are slightly lower for some of the Southern European countries than for the Nordic and Central European countries. There are also within country differences between the waves. The share of females in the sample is below 50 % for the first two waves but it increases to a majority in the last wave. In for example Germany, Sweden and France a majority of the sample consists of women throughout the three waves while in Spain, Italy and Greece a majority of the respondents are men. The percentage of the sample that has had a long-term illness is relatively large – 35 %, 32 % and 38 % respectively for each wave. Some countries have a lower share of the respondents with bad health, noteworthy Greece, while some countries for example Germany and Sweden, has a higher percentage of the sample of people who have had a long-term illness.

Table 6. Mean age, years of education, percentage of females and long-term illness.



4 Methods

This chapter will present, detail and discuss the chosen method and model that is used to answer to the aim of the thesis. The chapter begins by outlining the method before moving on to a presentation of the model and the included variables.

4.1 The Approach

The thesis will use a quantitative method that relates self-perceived health in time (wave) *t* to conditions measured in time (wave) t_{-2}. Concretely, this means that a health outcome in, say wave 2, will be related to variables collected from wave 1. The reason for using t_{-2} and not t_{-1} is simply that it passes two years (two time periods) between the waves. For each pair wave of which is feasible, the thesis will estimate logistic regressions models for the likelihood, the odds, of experiencing a certain health outcome given the characteristics of the explanatory variables. Wave 3, SHARELIFE, is different from the other waves and does not incorporate the variables needed for the study (except for the dependent variable). This means that the waves paired and studied in the thesis are wave 1-2, wave 2-3 and wave 4-5. Because of the usage of pair of waves the model incorporates a slight time dimension, which is important in order to get closer to some kind of causal relationship, but at the same time it does not fully exploit the time dimension since it solely looks at the differences between two (and not more) points in time. To look at three pairs of waves covering three slightly different periods of time also gives and indicator of the stability of potential results and if there seems to be any shift in certain characteristics or relationships over time.

Both linear probability models and logistic regressions have been utilized in health science were health outcomes are analysed. A logistic model allows one to predict discrete outcomes, such as good or bad health, from a set of explanatory variables that can be both discrete, continuous and (or) dichotomous (Tabachnick & Fidell, 2012). A logistic models is chosen here due to its appealing characteristics. In contrast to a linear probability model – where probabilities outside the spectrum 0-1 by definition are estimated and thus leads to heteroscedastic residuals and

non-normal distribution of the error term – the predictors in a logistic regressions do not have to be normally distributed, linearly related to the dependent variable or of equal variance (Tabachnick & Fidell, 2012).

The framework of a logistic regression can be illustrated in the following way:

$$\hat{Y}_i = \frac{e^h}{1 + e^h}$$

Where $\hat{Y}_i$ is the estimated probability that individual *i* is in one of the outcome categories (0 or 1, good or bad health). *h* is a linear regression equation that for this study can be illustrated in the following way:

$$h = \beta_0 + \beta_1 \rho_{it-1} + \beta_2 X'_{it}$$

The linear regression equation generates the log of the odds:

$$\ln\left(\frac{\hat{Y}_i}{1 - \hat{Y}_1}\right) = \beta_0 + \beta_1 \rho_{it-1} + \beta_2 X'_{it}$$

This means that the linear regression is the natural log of the likelihood of having one outcome divided with the probability of having the other outcome. The coefficients are estimated using maximum likelihood (Tabachnick & Fidell, 2012).

The logistic regressions are run with odds ratios, which is the change in odds of having one outcome when the value of an explanatory variable changes one unit. For example, an odds-ratio for the variable age of 1.1 would indicate that the likelihood of experiencing bad health (bad health = 1) increases with 10 % for every year. The odds ratio of a categorical variable is interpreted in relationship to the baseline (reference) category. To illustrate, the odds ratio of 0.8 for a categorical variable should be interpreted as the respondent that belong to that category is 20 % less likely to experience bad health compared to a respondent in the baseline category, everything else equal (Tabachnick & Fidell, 2012)

4.1.1 The model

The model utilized in the thesis can be illustrated by the linear regression equation related to the one just presented.

$$h_{it} = \beta_1 \rho_{it-1} + \beta_2 X'_{it} + \varepsilon_{it}$$

h_{it} – Health of individual *i* in a specific time.

ρ_{it-1} – Work conditions and work environment of individual *i* in a specific time (before health is measured).

X'_{it} – A vector of covariates (for example sex, age, education) of individual *i* in a specific time.

ε_{it} - Unobserved time varied factors

As mentioned earlier, health is measured by self-rated health and h_{it} thus equals individual self-rated health in time *t*.

As stated above, ρ_i, is a measurement of psychosocial work factors – demands, controls, efforts and rewards – experienced by an individual, a worker. The variables included, which has been described earlier, that aims to cover these aspects are the following:

- Satisfied with main job.
- Time pressure due to a heavy workload in main job.
- Little freedom do decide how to your job.
- Opportunity to develop new skills in main job.
- Receive support in difficult situations in main job.
- Receive recognition for my work in main job.
- Salary or earnings are adequate in main job.
- Poor prospects for job advancement.
- Poor job security.

X'_{it} symbolises a vector of the remaining covariates included in the model. Covariates are included to control for factors that would otherwise would be included in the work-related variables, as well as to provide additional information of interest, especially regarding country and welfare-regime differences.

The independent variables, which have been presented and described in the previous chapter, are the following:

- Age
- Gender
- Country
- Welfare regime
- Education
- Occupation (only available for wave 1)
- Job type (for wave 2 and 4)
- Smoking
- Long-term illness
- Unemployment rate
- Area of living

5 Empirical Analysis

Chapter 5 displays and presents the results of the logistic regression and then discusses the results and relates them to theory and previous research.

5.1 Results

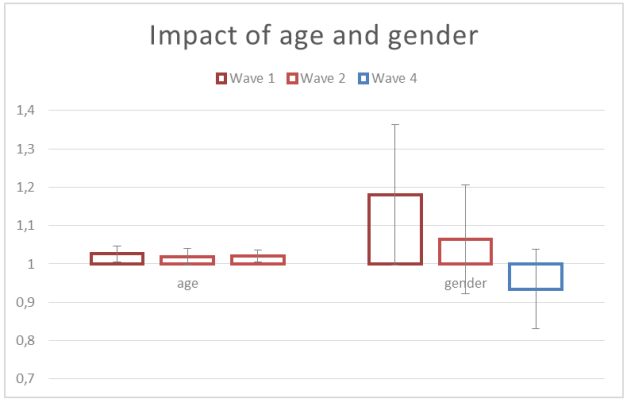
5.1.1 Regression Results

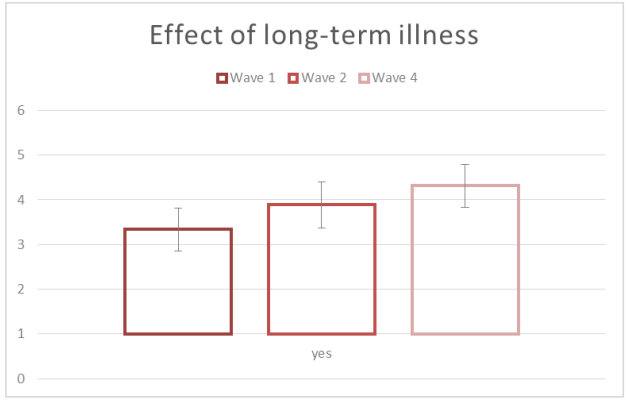
Results of the logistic regression are summarized and shown in tables 6 to 9. Results are firstly shown for the regressions of the whole sample (not welfare-regime divided) where the odds ratios for each pair of waves (for each of the three regressions) of the work-related variables of interest are shown, as well as the odds ratios for the other covariates. Error bars are added that displays 95 % confidence intervals for each odds and thus indicates the significance and spread of each odds. Full tables of the regressions are shown in appendix A. Note that, even though not explicitly stated in the interpretations of the odds ratios, all odds and the effects are interpreted in an everything-else-equal (status-quo) scenario. Also note the tables refers to each pair of waves by the number of the first wave in each pair. The results for wave 1 and 2 are thus referred to as wave 1, results for wave 2 and 3 as results for wave 2 and so forth.

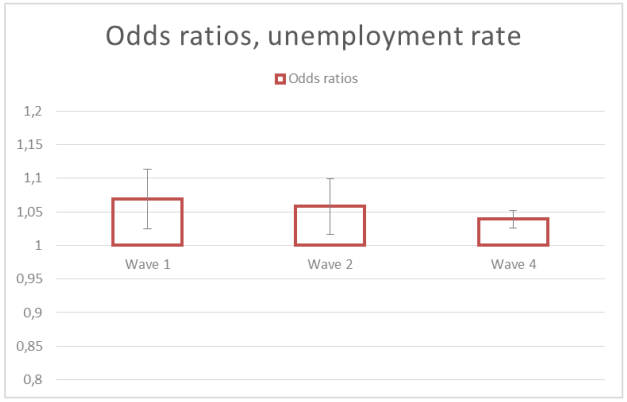
Table 6 displays the impact of a number of covariates – age, gender, long-term illness, unemployment rate, the effect of different occupations or type of employment and the effect of education. Age is significantly related to a slight increase in the chance or having worse health with an increased chance of about 2 % for every year. Gender, and more specifically being a woman is for wave 1 related to an 18 % chance of having bad health while the effects for wave 2 and 4 are not significant. Having had a long-term illness is related to a clear and strongly elevated risk of perceiving your health as bad. From about three times as likely in wave 1 to more than 4 times as likely in wave 4. The effects of occupations are as assumed – compared to having a high skill white-collar job there is an insignificant difference of having a low skill white-collar, but significant increased chance of bad health if having a blue-collar job. The

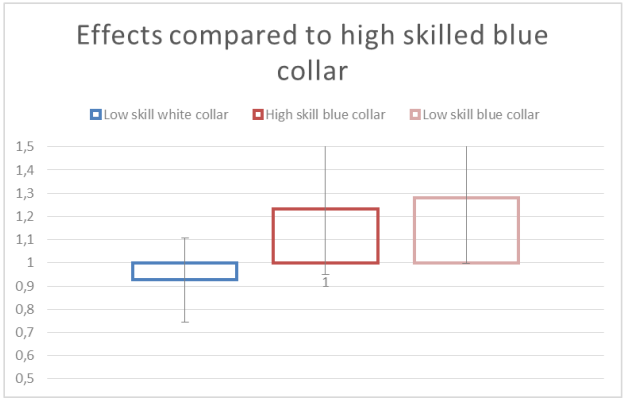
results for the job type variables are inconsistent for the two waves indicating that occupational variable such as the one in wave 1 can more accurately capture impacts of different kinds of occupations. Education seems to be associated with a lower likelihood of having bad health. Compared to upper secondary (non-tertiary) education, having a lower level of education is associated with an elevated risk of having bad health while having a higher education decreases the chance of bad health. Together these covariates indicates a social gradient in self-perceived health. The likelihood of experiencing bad health rises with the unemployment rate. A one percentage point increase in unemployment rate is significantly associated with between a 1.04 increases in worse health, in wave 4, to about 1.06 increase in wave 1. Since the unemployment rate is measured on a national level it means that a worker in a country with a higher unemployment rate has a higher chance of experiencing bad self-perceived health.

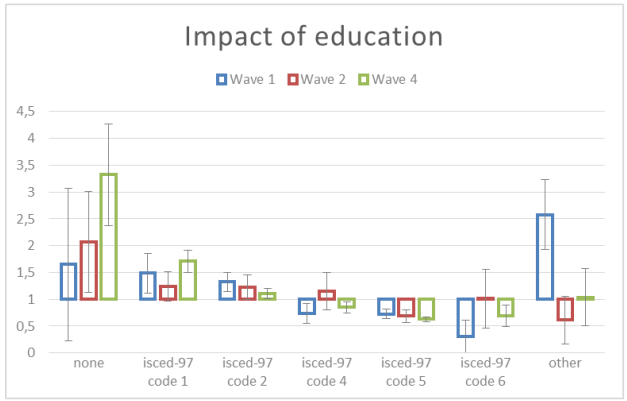
Table 7. Impacts of covariates







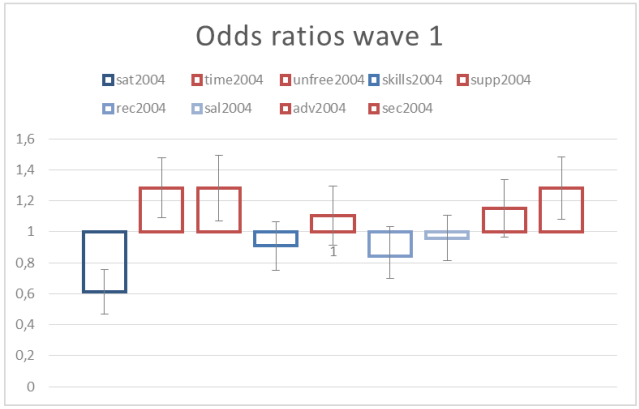


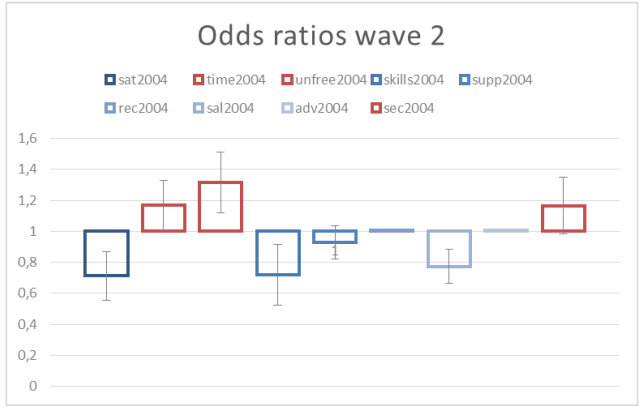


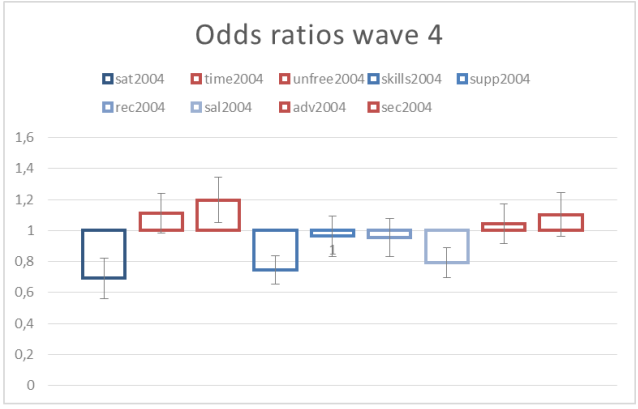
The odds ratios and stand errors for each of the work-related (psychosocial) variables are presented separately for each wave in table 7. The directions of the odd ratios are relatively consistent over the three measured waves where the variables related to control and rewards at work are mostly associated with a reduced likelihood of having bad health while the effort and demand aspects seem to relate to an increased chance of bad health. Not all of the variables have significant effects; noteworthy are the results of support at work, which is not significant for any waves. To receive recognition is only in wave 1 related to a significant reduced chance of bad health. But, time press and lack of decision freedom at work are both significantly related to worse self-rated health and so is poor job security. Job satisfaction and the possibility to learn new skills at work are associated with better health. To be satisfied with its salary is related to a reduced chance of bad health. The demand and effort related variables have odds ranging from 1.04-1.15 for salary adequacy. 1.1–1.28 for job security and about 1.17-1.32 for time pressure and lack of decision freedom (lack of control). This indicates that, for example, lack of decision freedom at work is associated with between 20-32 % higher risks of experiencing bad health when looking at the three different waves. The control and reward factors (the ones assumed to reduce work-related stress and bad health) have odds ratios ranging 0.61-0.71 for job satisfaction, 0.72-0.95 for opportunities to develop new skills and between 0.74-0.96 for having an adequate salary.

Overall, the results provide an indicator that after controlling for mostly significant covariates, there are still significant and relative stable affects and relationships between work characteristics, and health – relationships that support the strain hypothesis and imbalance hypothesises of the two models of occupational health. It should be noted that the confidence intervals are relative large for some variables, indicating that the impacts may vary and the exact odds should be interpreted with some caution.

Table 8. Odds ratios for work-related variables







Moving on, table 8 presents the results – the odds – for the welfare regime-specific regression (the full regressions are shown in appendix B) and the work-related variables. The results for both Social Democratic and Corporatist regimes are displayed and contrasted for the three waves. Looking at the results for wave 1, it is clear that the odds are relative similar for the both regimes. Being satisfied with your job readily reduces the likelihood of having bad self-rated health (about 35-38 % lower chance in both Social Democratic and Corporatist welfare states for the three time periods). Oppositely, working with time pressure and lack control (decision freedom) at work is related to relatively strong increase, of about 25-30 % for both regimes and variables, in the likelihood of having bad health. However, only the odds for the Corporatist states for these two variables are significant. The odds for receiving support and/ or recognition at work are – as was the case for the regressions with all countries included – ambiguous and insignificant. Poor job security increases the likelihood of bad health in both regime types and poor prospects for job advancement are for Social Democratic states related to worse health. In total, six of the work-related factors have significant effects for Corporatist states while only two of the factors are significantly related to self-perceived health in Social Democratic States. Looking at the 95 % confidence intervals it becomes obvious that they are relative wide, also for the significant variables, and this indicates that the significant results should be interpreted with caution.

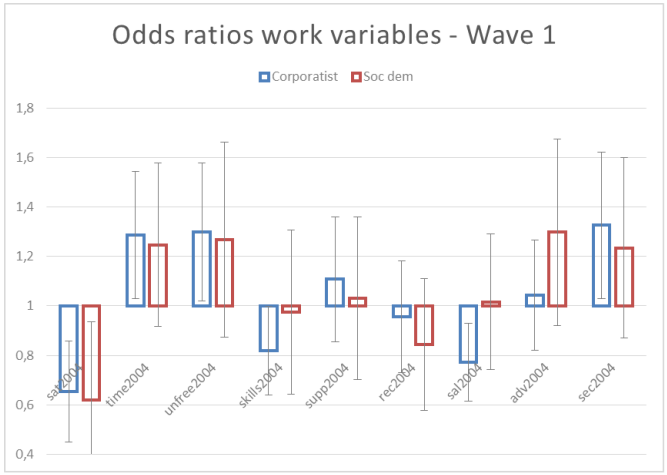
For wave 2, the results are somewhat similar where the odds ratios for each variable have almost exclusively the same signs for both types of welfare states. The variables that may be assumed to have a negative impact on health (an increased likelihood of bad health), such as time pressure and lack of control and poor job security, do indeed show a negative relationship (odds above 1). Job satisfaction, the possibility to learn new skills and adequate salaries has odds ratios indicating a reduced chance of having bad health. Again, there are some differences between the sizes of the odds between the two welfare states but it is hard to see any pattern in those differences, also when comparing wave 1 and 2. Once again the confidence interval indicates that the sizes of the odds ratios may fluctuate to a relative large extent.

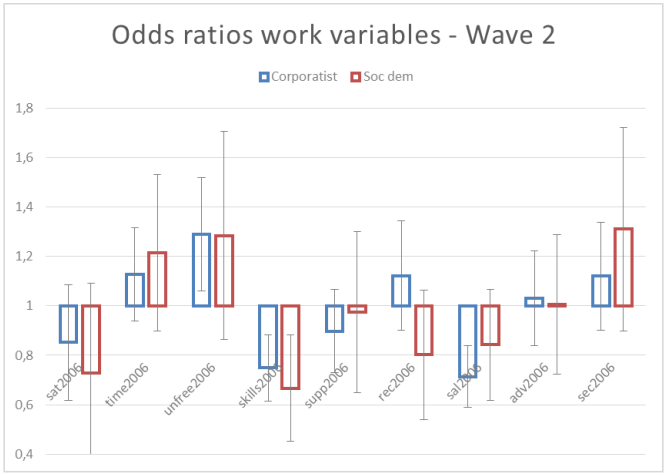
The results for wave 4 are slightly more differentiated and ambiguous than for the first two waves. This can be exemplified with the odds ratios for time pressure at work, which, while displaying the assumed impact for Social Democratic countries, is significantly associated with a reduced likelihood of bad health for Corporatist states. This is however the only coefficient that significantly displays a suspicious sign. To receive recognition at work related to a

relatively strong reduction in the chance of bad health in Social Democratic welfare regimes while this is not the case in the Corporatist welfare states. On the other hand, to receive an adequate wage reduces the chance of bad health in Corporatist states (of about 40%) while the odds ratio for the other kind of welfare states is insignificant. Job security relates once again to an increased likelihood of bad health with about 35% for Corporatist states while the odds for Social Democratic states are not significant. Overall, a majority of the work-related variables are significant for Corporatist states while this is not the case for the Social Democratic welfare states.

Table 9 presents the odds ratios for the work-related variables of gender specific logistic regression for the three different waves. The full regressions are shown in appendix C. There are both similarities and differences in terms of sizes and significances of the odds ratios. Job satisfaction is throughout the waves related to lower probability of having bad health for both men and women and to about the same degree. For example, for wave 1 – being satisfied with its job lowers the probability of having bad health of 40 % for men and for 37 % for women. In contrast to job satisfaction there are more pronounced differences between men and women when it comes to time pressure at work. Time pressure has a seemingly much stronger and significant effect on the chance of having bad health for females than for males. The odds for time pressure varies between the waves where women in wave 1 who experience time pressure at work are more than 60 % more likely to experience bad health, while the same odds in wave 4 is 1.31. Poor job security is another factors that in its effects on health differ slightly between men and women where women seem slightly more affected (it increases the probability of bad health to a higher degree for women than for men), especially in wave 1. Lack of control at work relates to a relative equal and mostly significant increased probability of bad health for both sexes. To receive recognition and/ or support at work is, once again, mostly insignificant – although recognition relates to a reduced chance of bad health for women in the first wave. Poor prospects for job advancements seem on the other hand to relate more strongly to bad health for men than for women. Overall, there seems to be some differences between men and women when it comes to the effects of certain work conditions and experiences – mainly conserving lack of control, time pressure and job security – on the likelihood of experiencing bad health. The bars indicating the confidence interval for each odds are generally narrower than was the case for the first two waves of regression results. Still, the estimated effects fluctuates some – also for the significant variables.

Table 9. Welfare regime differences





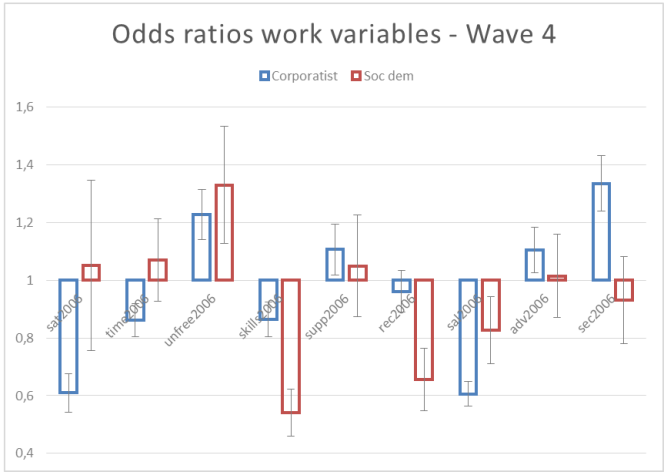
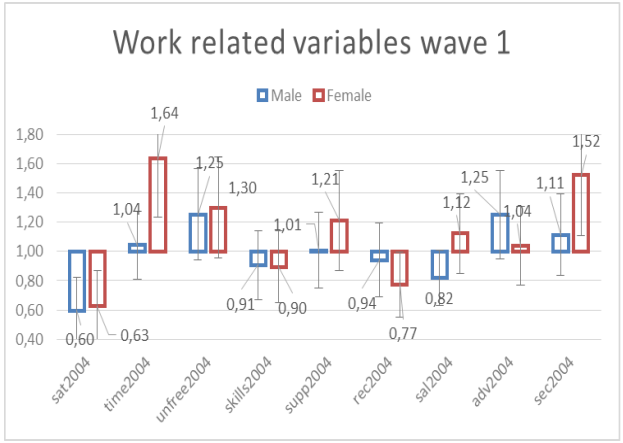
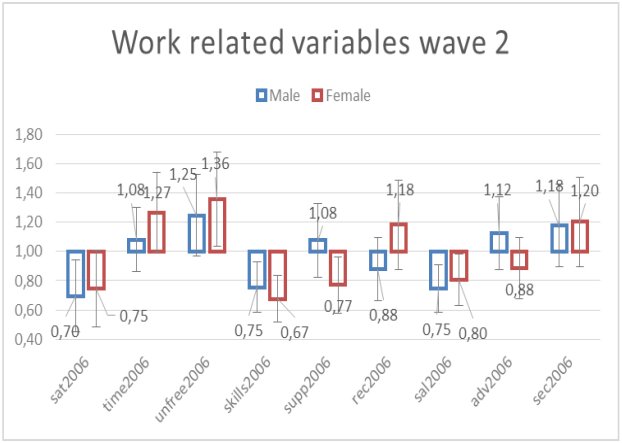
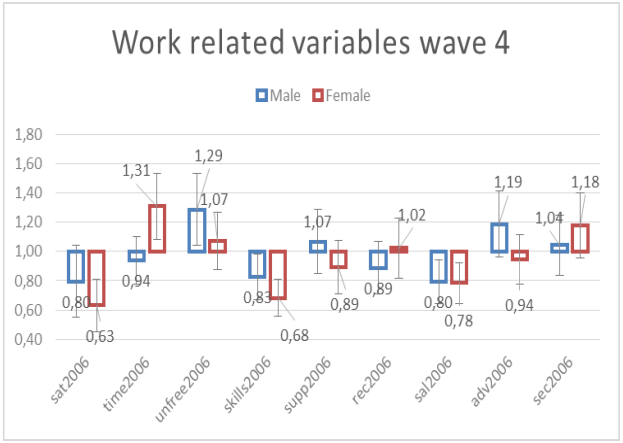


Table 10. Gender differences - work-related variables







5.2 Discussion

It is clear from the descriptive statistics that bad self-perceived health is indeed a problem for a fair share of the working people covered in SHARE. The difference in the share of workers for each sex that perceives their health as bad is remarkably similar while the difference in shares between the two welfare regimes are also similar but still somewhat more differentiated, especially for the last wave where almost twice as high percentage of people in Corporatist welfare states have bad health compared to the Social Democratic states. Larger differences can been found between the different countries. This gives an indicator that there are indeed country differences between perceived health and furthermore, that those differences are not directly and exclusively related to Esping-Andersen's welfare regime cluster since there are Corporatist welfare states in both ends of the spectrum (tables in appendices also displays significant differences between countries with regards to health outcome). These country differences do not seem to be directly related to age – the country differences in age are relatively small – and neither to the sex composition of each country which differs slightly more but where no clear pattern, with regards to the share of bad health people, is clearly visible. To some extent, some of the country differences can be found in relationship to the percentage of workers in a country that has suffered from a long-term illness in their lives. For example, the percentage of people that has suffered a long-term illness is much lower in Greece than in countries such as Germany or Estonia – countries where also a larger share of the sample perceives their health as bad. As can be seen from the regressions results, long-term illness is a strong predictor of bad health. This point towards the complexity of health and to the importance to somehow account for earlier health adversities – such as long-term illness – when looking at health for older people.

When it comes to the work related variables and the extent of demands and control, efforts and rewards at work, it is more common to agree – to experience - the positive effects of work, such as being satisfied with your work, to receive support and recognition than it is to experience the effort and demands aspects of work. Still, quite a large extent of the respondents experience time pressure at work (demands) and believe that the prospects of job advancement (rewards) are poor. The shares of the workers who lack control over their work situation are larger for Corporatist states than the Social Democratic ones. This slight difference is in line with the theory of Esping-Andersen (1990) and Dahl et al. (2009) where workers in Social

Democratic states should experience greater freedom, more control and somewhat less pressure from work. This is also in line with the hypothesize that were proposed in the outset of the thesis.

Looking at the logistic regression results there exist relative clear and significant relationships between work factors and health of older workers. For the sample as whole, the effects on the probability of experiencing bad health for the work-related variables are noticeably stable and accurate with regards to the two theoretical models put forward. Rewards such as job satisfaction and an adequate wage relates to reduced probabilities of work strains and subsequent health adversities, adversities which in turn are related to demands and efforts such as time pressure and poor work conditions. Furthermore, lack of control – here conceptualized by the lack of decision freedom at work – and lack of rewards; poor prospects of promotion are mostly significantly related to an increased probability of higher strains and bad health. And this is after controlling for a range of other factors that may contribute to the health status of an individual. The accuracy of the Demand-Control Model and the Effort-Reward-Imbalance Model in predicting bad health thus seem to be relative good when it comes to older European workers and the results for the variables are (mostly) in line with what was suggested in the outset of the thesis (see hypothesises; Van der Doef and Maes 1999; van Vegchel et al. 2015; de Lange et al. 2003). Many previous studies (see the discussion of van Der Doef and Maes review) tend to focus on smaller and more finely defined communities and it is therefore interesting that the models and the effects also can be found in a larger and more diverse sample. The sizes and ratios of the odds vary slightly between the waves and between the different factors but the effects are not to be neglected (even though they are relatively small and varied compared to for example the effect of long-term illness). The odds ratios are also in line, but on the smaller side of the spectrum, with the studies reviewed by van Vecghel et al. (2015). Since the variables are run separately it is possible to deduct and interpret an additive approach to work factors, where experiencing a range of efforts and demands at work together adds to a higher predictability of experiencing bad health. Again the results confirm to summarizing findings of for example de Lange et al. (2003). There are some noticeable exceptions to the work-related variables where to receive support at work, and for the most part also the variable regarding recognition, is not significantly related to any change in the likelihood of experiencing bad health. Sensitive checks have been carried out in order to see if this is due to correlation between the variables and that is not the case meaning that there are other reasons behind these factors not being related to health in a consistent and significant way. This can be

interesting from a policy perspective when it comes to determine what to focus on at work places in order to increase work-related wellbeing and subsequent health outcomes. One covariate of interest is unemployment rate where it was shown that one point increase in unemployment rate is related to 4-6 % increase in probability of bad health. Even though the people in the sample are employed, an increase of unemployment tend to affect their health negatively. This is interesting with regards to the Effort-Reward-Imbalance Model that stipulates that being unemployed reduces well-being. It seems that being employed in a context with (high) unemployment also reduces well-being and increases the chance of bad health (even though you are actually employed). It is possible to imagine a scenario where a high unemployment rate in a country creates more stressful environments for workers where their options and control over work situations diminishes, which is in turn affects health (Bambra & Eikemo, 2009).

5.2.1 The differences between welfare regimes and between gender

Two of the aims of the thesis were to investigate whether there exist differences in psychosocial work conditions, and the effects of those conditions, on health between the two welfare regimes and between men and women. It has been shown and discussed that shares of workers who experience time pressure and lack of control at work are larger for workers in Corporatist states than for workers in Social Democratic states. Looking at the odds ratios for the work related variables and comparing the two welfare regimes, the similarities are more common and prevalent than the differences. The direction of the odds and relative effects of demands, controls, efforts and rewards at work are about the same for the two regimes. This provides an indication that the while different welfare regimes have an effect on the presence of control and demands at work but not on the magnitude of the effects of such factors on health. For example, time pressure seems to be related to about the same increased probability of experiencing bad health for both welfare regimes, but if extensive time pressure at work is more common in Corporatist welfare states it means that there is a larger share of people who have an increased probability of having bad health in those states. Still, that there are no consistent differences between the two welfare regimes in terms of the magnitude of the odds speaks somewhat against one of the hypothesis of the thesis. Based on these results, it is not possible to say that rewards or (lack of) control has a stronger effect on the likelihood of bad health for workers in Corporatist states than in Social democratic ones. These results differ from Dragano et al.

(2010) where the strength of effects differed to some extent between welfare states. However, Dragano et al. looked at depression (which may yield different results than self-perceived health) and also had a different and more detailed division of welfare regimes. To strictly rely on Esping-Andersen's classification and group states in (for this thesis) two categories makes the study in one way less nuanced. As was discussed, there exist differences between countries within, mostly, the Corporatist regime and it is possible that another division of countries would have yielded other results. Still, to group accordingly to Esping-Andersen has theoretical advantages and it is of interest to investigate whether the assumptions and hypothesises that are based on Esping-Andersen's regime holds up (or if a more nuanced classification should be tested). The results provide indications that the self-perceived health of older workers in Corporatist welfare states are not structurally affected by psychosocial factors at work in a more pronounced way than older workers in Social Democratic states, and also that a slightly more nuanced way of dividing countries into different welfare regime, or at least include data also covering liberal welfare states, could yield other results.

More of the variables were significant for the Corporatist states than for the Social Democratic states. This could point towards a slight difference in the importance of the variables between the two welfare regimes where factors at work, on one hand, can be seen as potentially more relevant for predicting bad health in Corporatist states than in Social Democratic states. However, it can also be due to the differences in sample size for the regimes where sample is larger for the Corporatist cluster making it easier and more likely to gain significant effects for that cluster than for the Social Democratic one.

The differences are small between men and women when it comes to shares of the samples that experience the work-related factors. These findings are somewhat surprising and contradicts the findings of Matthew et al. (1998) as well as the hypothesis of the thesis. This could be an indication that labour markets are not stable but in constant change where differences between genders diminishes. It could also be a composition effect where older female workers on average differ from younger female workers in terms of experienced controls and rewards. Hence, about the same shares of men and women seem affected by both the positive – the reward and control aspects – and the negative – the effort and demand – aspects of work. But women's health could still be damaged relatively more if health-adverse factors are more pronounced for women. Looking at the odds ratios for the work-related factors it was showed that there are differences between the sexes, where the probability for women to experience bad

health when under time pressure is higher than for men. Also job security reveals a similar, although not as clear, relationship-difference. This indicates that women react somewhat differently to different work related factors and that there can be a difference in how strongly such factors relate to the health of men and women. This is in line with what was theorized and the stated hypothesis. It confirms to findings of Karasek and Theorell (1990) but contradicts the findings presented by Van der Doef and Maes (1999) where women were found to often be less affected by and experiencing strains at work. This points towards the importance of further studies to gain more knowledge in potential differences between men and women when it comes to work experiences, strains and how it relates to health.

5.2.2 Considerations

Some considerations can be highlighted with regards to the results and discussion that have been made. It is important to note that the logistic regressions measure correlations and not causal relationships. The fact that work factors are collected and measured before health somewhat helps to ease this problem but not to such a degree that the connections between work conditions and health in this study can be called anything more than associations. Still, significant relationships are of interest and provide indications and a base for further studies of the subject. As de Lange (2003) showed and argued; cross-sectional and associative studies have tended to receive similar results as more causal studies, which provide further weight to the reliance on associative studies.

Even if there are indeed associations between work-related factors and health it might not always be the case that harsh work conditions are what explains bad health. It is possible that people that from the beginning had or were likely to have bad health tend work in occupations with more adverse psychosocial characteristics. Then, even if working conditions do affect health negatively for these people, it is harder to detangle what is due to the work situation and what is due to other factors. This relates to the potential problem of justification biases where people that have bad health justify their health by being more negative towards aspects at work (among other things). After all, the outcome – self-perceived health – is subjective and this can be a problem if there are differences in how health is experienced between different groups of people, for example a social gradient in reporting health. It could also be the case that self-perceived health is perceived and reported differently in different countries. This is of course a risk but it should be noted that the thesis deals with European, and mostly western European

countries and any cultural differences can be said to be somewhat limited. Furthermore, Fleche et al. (2011) find in their study of OECD countries that cultural factors are not a driving factor for differences in health. These are potential issues that are relative hard to measure and come around. To some extent these potential problems can be eased with controls for socioeconomic status such as education, occupation and smoking, factors that indeed are found to significantly relate to health. Regardless they are important to keep in mind when considering the results and implications of the study.

5.2.3 Implications with regards to population ageing

Lastly, it is important to relate the findings of the study in the context of population ageing and the implications that the findings may have when it comes to dealing with an ageing population. It was discussed in the introduction how in times of population ageing it is of importance that people are working and that it might be necessary to raise retirement ages and increase productivity. While this study does not directly measure or study retirement decisions it does so indirectly since individual health is a strong indicator of decision to retirement and of early retirement (Schultz, et al., 1998). The relative consistent results throughout the three pairs of wave for the work-related variables point towards the importance of also considering factors at work when trying to overcome problems related to population ageing. If work can function as a place where the probability of bad health (in the future) is reduced rather than increased, much is won. Firstly it might lead to people being able and more willing to work longer and into older ages (or at least reduce the chance of early retirement). Secondly, it might also help to ease the burden on welfare systems and health care by potentially reducing health care costs (when people are less likely to be sick). Furthermore, states and policymakers also need to consider factors such as time pressure and lack of decision control if and when trying to implement policies to increase productivity, and to be aware that effects can differ depending on country and welfare regime.

6 Conclusions

6.1 Research Aim

The research aim of the thesis was

(…) to study the relationship between psychosocial work related factors, connected to demand and controls and efforts and rewards at work, and the health of older workers, and to relate and analyse such relationships and impacts conditional on gender and welfare regimes.

With logistic regressions covering three on each other following time periods, the study has related psychosocial factors at work to self-perceived health of older workers. Demands and efforts at work – measured by time pressure and poor job security – as well as low control and recognition – measured by lack of decision freedom and poor advancement prospects – are throughout the three time periods relative consistently related to an increased probability of having bad health with odds ratios ranging from 1.04 to 1.28. Rewards and control factors at work – measured by job satisfaction, the opportunity to develop new skills, to receive recognition and support and being paid an adequate wage – is mostly, and throughout the three periods, related to a reduced probability of having bad health. That demands and effort relates to adverse health outcomes while control and rewards at work reduces such outcomes are in line with Siegrist (1986) and Karasek (1979) as well as summarizing findings of Van der Doef and Maes (1999), van Vegchel et al, (2015) and de Lange (2003). The study thus provides additional support and further insight to the health effects of psychosocial factors at work. In addition the study shows that these relationships are valid also for a more diverse cross-country sample of older European workers.

There are no clear differences between men and women when it comes to the share of the sample for each sex that experiences the studied factors. Almost identical shares of men and women are satisfied with their job, experiences time pressure, receive recognition for their work. This finding, that there are no (or insignificant) differences between the shares of men and women in that experience high demands and lack control, opposes the suggested hypothesis

as well as previous research (Karasek and Theorell 1990; Matthews et al. 1998). Even though about the same shares of women and men experience the studied work conditions and factors, there are differences in how men and women are affected by these factors. Time pressure, lack of decision freedom and poor job security are all related to a larger increase in the probability of having bad health for women than for men. The differences for the positive aspects of work are slightly more inconsistent throughout the three time periods but women seem to be slightly more positively affected by the opportunity to develop new skills, than men. That lack of control at work relates a stronger chance of female self-perceived health are in line with was suggested in the outset of thesis and supports previous research (Matthews, et al., 1998). Still, the overall picture for emphasizes the need for further research with regards to gender differences, also in closer connection to welfare regimes.

There are clear and significant differences in self-perceived health between the countries in the sample. In line with Dragano et al. (2010), these differences can to some extent be explained by the differences between the two welfare regimes – the Social Democratic regime and the Corporatist regime. Workers in Social Democratic states, where de-commodification and active labour market policies are high - receive more support, recognition and opportunity to develop new skills at work and are also more often satisfied with their jobs. The negative aspects of work, the strain factors, are quite equal between the regimes factors. That workers in Corporatist states do not lack control and freedom at work to a higher extent than workers in Social Democratic states are somewhat surprising and goes against theory based on Esping-Andersen (1990) and Dahl et al. (2006) as well as suggested hypothesis. The relative effects of work factors on health are small in terms of odds-ratios and the odds vary over the three pairs of waves, but more of the demand, control, effort and reward factors are significantly associated with a change in the risk of experiencing bad health in Corporatist states than in Social Democratic states. That negative psychosocial work aspects are more common in Corporatist states thus conform relatively well to theory and previous research (Esping-Andersen, 1990; Dahl et al., 2006; Dragano et al., 2010) while the lack of generalizable differences in the impact of such aspects between the welfare regimes goes against suggested theory and indicates the need for continuous research, also for differences within different regimes.

6.2 Practical Implications

The results of the thesis, and the conclusions that can be based upon them, may have practical implications. The thesis provides further evidence that work-related factors relate to, and likely affect health, in both negative and positive ways. This is important for states and policy-makers to consider when pondering solutions and policies aimed at older workers to increase retirement ages and productivity and to reduce health care costs. Based upon the thesis it can be argued that it is a more fruitful strategy to enhance positive and easing factors at work than to focus on more pressuring aspects that might seem appealing at first for increasing productivity. Lastly, the findings have implications with regards to European policies where the national context is important to consider as well as the aspect of differences in welfare regimes and labour market settings when analysing psychosocial factors at work and how it relates to the health of older workers.

6.3 Future Research

The findings of the thesis are mostly in line with previous findings and contribute to continued support of the two models of occupational health and towards an additive approach of demands and controls at work. However, as in the case of many related studies, the thesis is not without its limitations and potential pitfalls. Future research is thus needed in order to gain deeper and more causal understandings of how factors at work influence and affect health as well as productivity and retirement decisions. Further insights are also needed when it comes to the potential differences between men and women, where the results of the thesis to some extent contradicts previous research. Lastly, further research is also needed into what influences and explains the seemingly relative large differences between countries, differences that cannot solely be attributed to the Esping-Andersen's classification of welfare regimes and the impacts of such regimes.

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Appendix A

Table 11. Logistic regressions with odds ratios displaying impact on self-perceived health. Regressions (1) only contains work-related factors, (2) also includes age, gender and country and (3) includes all covariates

WAVE 1			
	(1)	(2)	(3)
VARIABLES	odds ratio	odds ratio	odds ratio
Job satisfaction	0.693***	0.632***	0.611***
	(0.0854)	(0.0805)	(0.0835)
Time pressure	1.226***	1.256***	1.283***
	(0.0922)	(0.0977)	(0.107)
Lack decision freedom	1.326***	1.363***	1.282***
	(0.110)	(0.116)	(0.118)
New skills	0.771***	0.782***	0.908
	(0.0634)	(0.0672)	(0.0869)
Support	1.107	1.104	1.104
	(0.0963)	(0.0985)	(0.106)
Recognition	0.931	0.834**	0.845*
	(0.0831)	(0.0769)	(0.0832)
Adequate salary	0.741***	0.833**	0.958
	(0.0565)	(0.0657)	(0.0810)
No advancement	1.196**	1.188**	1.152
	(0.0970)	(0.0991)	(0.103)
Poor job security	1.266***	1.317***	1.283***
	(0.106)	(0.115)	(0.119)
Age		1.035***	1.026**
		(0.0103)	(0.0111)
Female		1.096	1.180*
		(0.0826)	(0.102)
Baseline category: Sweden			
Austria		1.390	1.534*
		(0.282)	(0.337)
Germany		1.543***	1.592***
		(0.229)	(0.264)
Netherlands		1.108	1.245
		(0.173)	(0.210)

WAVE 2			
	(1)	(2)	(3)
VARIABLES	odds ratio	odds ratio	odds ratio
Job satisfaction	0.752**	0.644***	0.714***
	(0.0856)	(0.0756)	(0.0901)
Time pressure	1.159**	1.206***	1.170**
	(0.0777)	(0.0833)	(0.0870)
Lack decision freedom	1.294***	1.278***	1.317***
	(0.0958)	(0.0972)	(0.108)
New skills	0.681***	0.671***	0.719***
	(0.0493)	(0.0507)	(0.0595)
Support	0.935	0.916	0.928
	(0.0726)	(0.0729)	(0.0796)
Recognition	0.976	0.941	1.003
	(0.0789)	(0.0785)	(0.0903)
Adequate salary	0.703***	0.778***	0.774***
	(0.0490)	(0.0561)	(0.0600)
No advancement	1.061	1.034	1.006
	(0.0781)	(0.0785)	(0.0825)
Poor job security	1.184**	1.187**	1.165*
	(0.0937)	(0.0977)	(0.102)
Age		1.023**	1.019*
		(0.00958)	(0.0103)
Female		1.089	1.064
		(0.0733)	(0.0782)
Baseline category: Sweden			
Austria		1.265	1.220
		(0.341)	(0.379)
Germany		1.756***	1.752***
		(0.274)	(0.306)
Netherlands		1.203	1.290
		(0.194)	(0.231)

WAVE 4			
	(1)	(2)	(3)
VARIABLES	odds ratio	odds ratio	odds ratio
Job satisfaction	0.633***	0.671***	0.691***
	(0.0593)	(0.0660)	(0.0727)
Time pressure	0.841***	1.109*	1.111*
	(0.0454)	(0.0641)	(0.0686)
Lack decision freedom	1.316***	1.242***	1.205***
	(0.0775)	(0.0770)	(0.0795)
New skills	0.703***	0.657***	0.741***
	(0.0407)	(0.0404)	(0.0490)
Support	1.134*	0.948	0.970
	(0.0747)	(0.0654)	(0.0713)
Recognition	0.854**	0.933	0.954
	(0.0543)	(0.0626)	(0.0680)
Adequate salary	0.563***	0.737***	0.794***
	(0.0321)	(0.0451)	(0.0516)
No advancement	1.196***	1.131**	1.044
	(0.0697)	(0.0698)	(0.0683)
Poor job security	1.368***	1.159**	1.110
	(0.0810)	(0.0746)	(0.0764)
Age		1.029***	1.021***
		(0.00760)	(0.00812)
Female		0.931	0.933
		(0.0513)	(0.0558)
Baseline category: Sweden			
Austria		1.629**	2.126***
		(0.328)	(0.458)
Germany		3.061***	3.335***
		(0.686)	(0.805)
Netherlands		1.925***	1.983***
		(0.391)	(0.431)

Spain	1.604***	1.375
	(0.283)	(0.267)
Italy	1.271	1.291
	(0.219)	(0.240)
France	0.888	0.983
	(0.143)	(0.179)
Denmark	0.817	0.759
	(0.138)	(0.138)
Greece	0.307***	0.364***
	(0.0600)	(0.0796)
Switzerland	0.473***	0.428***
	(0.118)	(0.115)
Belgium	0.793	0.890
	(0.123)	(0.149)
Israel	2.088***	2.681***
	(0.288)	(0.421)
Baseline category: Upper secondary education		
No education		1.653
		(0.530)
Primary education		1.486***
		(0.200)
Lower secondary		1.322**
		(0.156)
Post secondary		0.737
		(0.169)
Tertiary education		0.728***
		(0.0813)
More than tertiary		0.307
		(0.230)
Other education		2.577**
		(1.185)
Long-term illness		3.337***
		(0.267)

Spain	1.923***	1.869***
	(0.332)	(0.364)
Italy	1.214	1.307
	(0.205)	(0.241)
France	1.151	1.350
	(0.186)	(0.248)
Denmark	0.806	0.918
	(0.124)	(0.154)
Greece	0.378***	0.429***
	(0.0663)	(0.0848)
Switzerland	0.717*	0.668**
	(0.132)	(0.136)
Belgium	0.944	1.128
	(0.154)	(0.205)
Czech Republic	1.295	1.200
	(0.209)	(0.212)
Poland	1.933***	1.762***
	(0.343)	(0.341)
Baseline category: Upper secondary education		
No education		2.073**
		(0.643)
Primary education		1.240*
		(0.154)
Lower secondary		1.224*
		(0.128)
Post secondary		1.155
		(0.210)
Tertiary education		0.686***
		(0.0672)
More than tertiary		1.016
		(0.400)
Other education		0.611
		(0.404)
Long-term illness		3.889***
		(0.282)

Spain	2.377***	2.218***
	(0.479)	(0.486)
Italy	2.242***	2.783***
	(0.462)	(0.614)
France	1.974***	2.422***
	(0.379)	(0.501)
Denmark	1.194	1.476*
	(0.247)	(0.324)
Switzerland	1.053	1.408
	(0.209)	(0.298)
Belgium	1.232	1.488*
	(0.247)	(0.318)
Czech Republic	2.558***	2.838***
	(0.488)	(0.580)
Slovenia	2.203***	2.996***
	(0.494)	(0.716)
Estonia	8.058***	9.007***
	(1.443)	(1.738)
Baseline category: Upper secondary education		
No education		3.352***
		(0.952)
Primary education		1.716***
		(0.212)
Lower secondary		1.118
		(0.0956)
Post secondary		0.844
		(0.102)
Tertiary education		0.611***
		(0.0471)
More than tertiary		0.665
		(0.192)
Other education		1.019
		(0.517)
Long-term illness		4.300***
		(0.255)

Baseline category: White collar high skill			
White collar low skill			0.926
			(0.103)
Blue collar high skill			1.233
			(0.165)
Blue collar low skill			1.282*
			(0.165)
Baseline category: living in a big city			
Suburbs of big city			0.864
			(0.120)
Large town			1.004
			(0.138)
Small town			0.981
			(0.137)
Village			1.038
			(0.144)
Baseline category: Currently smoking			
Never smoked for at least (			0.745***
			(0.0731)
Stopped smoking			0.742***
			(0.0786)
Constant	0.303***	0.0446***	0.0407***
	(0.0465)	(0.0269)	(0.0271)
Pseudo R2	0.0248	0.0626	0.1298
Observations	5200	5200	4910

seEform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Baseline category: Employed			
Civil servant			1.021
			(0.119)
Self employed			1.151
			(0.116)
Baseline category: living in a big city			
Suburbs of big city			0.797*
			(0.103)
Large town			0.803*
			(0.0990)
Small town			0.810*
			(0.0982)
Village			0.955
			(0.0990)
Baseline category: Currently smoking			
Never smoked for at least o			0.684***
			(0.0585)
Stopped smoking			0.643***
			(0.0615)
Constant	0.447***	0.132***	0.441
	(0.0630)	(0.0761)	(0.278)
Pseudo R2	0.0267	0.0544	0.1314
Observations	5919	5919	5706

seEform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Baseline category: Employed			
Civil servant			0.827**
			(0.0798)
Self employed			0.913
			(0.0843)
Baseline category: living in a big city			
Suburbs of big city			1.051
			(0.144)
Large town			1.007
			(0.130)
Small town			1.125
			(0.129)
Village			1.146
			(0.128)
Baseline category: Currently smoking			
Never smoked for at least o			0.709***
			(0.0501)
Stopped smoking			0.705***
			(0.0559)
Constant	0.580***	0.0465***	0.164***
	(0.0667)	(0.0229)	(0.0872)
Pseudo R2	0.0465	0.1147	0.198
Observations	9226	9226	9108

seEform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix B

Table 12. Logistic regressions for each pair of waves and for the two welfare-regimes.

WAVE 1	Soc dem	Corporatist	WAVE 2	Soc dem	Corporatist	WAVE 4	Soc dem	Corporatist
VARIABLES	odds ratio	odds ratio	VARIABLES	odds ratio	odds ratio	VARIABLES	odds ratio	odds ratio
Job satisfaction	0.620*	0.655***	Job satisfaction	0.729	0.852	Job satisfaction	1.051	0.610***
	(0.157)	(0.106)		(0.195)	(0.119)		(0.307)	(0.0687)
Time pressure	1.247	1.286**	Time pressure	1.214	1.128	Time pressure	1.070	0.862**
	(0.170)	(0.132)		(0.163)	(0.0968)		(0.147)	(0.0568)
Lack decision freedom	1.267	1.299**	Lack decision freedom	1.284	1.288***	Lack decision freedom	1.330*	1.228***
	(0.208)	(0.143)		(0.214)	(0.116)		(0.202)	(0.0882)
New skills	0.974	0.818*	New skills	0.667**	0.749***	New skills	0.540***	0.865**
	(0.167)	(0.0920)		(0.110)	(0.0685)		(0.0813)	(0.0611)
Support	1.030	1.108	Support	0.975	0.898	Support	1.050	1.107
	(0.171)	(0.131)		(0.169)	(0.0875)		(0.178)	(0.0876)
Recognition	0.844	0.957	Recognition	0.802	1.122	Recognition	0.655**	0.962
	(0.137)	(0.117)		(0.135)	(0.115)		(0.109)	(0.0734)
Okay salary	1.016	0.773**	Okay salary	0.842	0.714***	Okay salary	0.827	0.606***
	(0.139)	(0.0803)		(0.114)	(0.0628)		(0.118)	(0.0421)
No advancement	1.298*	1.044	No advancement	1.005	1.032	No advancement	1.015	1.105
	(0.191)	(0.115)		(0.143)	(0.0969)		(0.147)	(0.0780)
Poor job security	1.234	1.326**	Poor job security	1.310*	1.120	Poor job security	0.932	1.336***
	(0.187)	(0.149)		(0.212)	(0.109)		(0.151)	(0.0962)
age	1.017	1.043***	age	1.003	1.007	age	0.984	1.043***
	(0.0178)	(0.0137)		(0.0171)	(0.0117)		(0.0158)	(0.00874)
Female	1.064	1.283**	Female	0.979	1.127	Female	1.059	0.945
	(0.153)	(0.138)		(0.131)	(0.0963)		(0.138)	(0.0618)
Baseline category: Upper secondary education			Baseline category: Upper secondary education			Baseline category: Upper secondary education		
No education		1.520	No education		2.213***	No education		2.604***
		(0.434)			(0.648)			(0.834)
Primary education	1.323	1.198	Primary education	1.498	1.060	Primary education	1.849**	1.200
	(0.306)	(0.179)		(0.397)	(0.141)		(0.479)	(0.163)
Lower secondary	1.331	1.212	Lower secondary	1.435*	1.180	Lower secondary	1.351	0.970
	(0.245)	(0.173)		(0.270)	(0.135)		(0.247)	(0.0885)

Post secondary	0.704	0.750
	(0.268)	(0.202)
Tertiary education	0.864	0.693***
	(0.153)	(0.0970)
More than tertiary		0.255*
		(0.194)
Other education	1.880	2.574
	(1.272)	(1.606)
Long-term illness	3.422***	3.477***
	(0.444)	(0.338)
White collar low skill	1.010	0.992
	(0.178)	(0.137)
Blue collar high skill	1.569*	1.174
	(0.362)	(0.191)
Blue collar low skill	1.786***	1.186
	(0.377)	(0.185)
Baseline category: living in a big city		
Suburbs of big city	0.905	0.783
	(0.207)	(0.129)
Large town	0.925	0.890
	(0.215)	(0.148)
Small town	0.730	0.965
	(0.180)	(0.145)
Village	1.032	0.804
	(0.245)	(0.119)
Baseline category: Currently smoking		
Never smoked for at least (	0.732*	0.887
	(0.119)	(0.107)
Stopped smoking	0.701**	0.874
	(0.117)	(0.117)
Constant	0.0587***	0.0157***
	(0.0624)	(0.0123)
Pseudo R2	0.0962	0.1067
Observations	1838	3071

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Post secondary	1.021	0.883
	(0.351)	(0.162)
Tertiary education	0.842	0.660***
	(0.134)	(0.0788)
More than tertiary		0.963
		(0.378)
Other education	1.894	0.169*
	(1.785)	(0.156)
Long-term illness	3.417***	4.357***
	(0.441)	(0.364)
Civil servant	1.061	0.879
	(0.228)	(0.113)
Self employed	1.177	1.030
	(0.256)	(0.110)
Baseline category: living in a big city		
Suburbs of big city	0.608**	0.968
	(0.138)	(0.149)
Large town	0.620**	0.888
	(0.135)	(0.131)
Small town	0.504***	1.097
	(0.118)	(0.150)
Village	0.780	1.182
	(0.165)	(0.153)
Baseline category: Currently smoking		
Never smoked for at least o	0.636***	0.764***
	(0.0983)	(0.0743)
Stopped smoking	0.479***	0.805**
	(0.0807)	(0.0889)
Constant	0.311	0.154***
	(0.316)	(0.106)
Pseudo R2	0.1005	0.1114
Observations	1898	3970

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Post secondary	0.372*	1.250**
	(0.219)	(0.137)
Tertiary education	0.626***	0.706***
	(0.0990)	(0.0600)
More than tertiary	0.185	1.255
	(0.203)	(0.365)
Other education	0.859	0.664
	(1.032)	(0.401)
Long-term illness	4.585***	4.831***
	(0.613)	(0.308)
Civil servant	0.846	0.676***
	(0.192)	(0.0691)
Self employed	1.375*	0.677***
	(0.264)	(0.0694)
Baseline category: living in a big city		
Suburbs of big city	1.658*	0.592***
	(0.441)	(0.0960)
Large town	1.236	0.874
	(0.327)	(0.125)
Small town	1.209	0.963
	(0.330)	(0.118)
Village	1.412	0.884
	(0.343)	(0.106)
Baseline category: Currently smoking		
Never smoked for at leas	0.689**	0.696***
	(0.108)	(0.0532)
Stopped smoking	0.689**	0.690***
	(0.114)	(0.0599)
Constant	0.467	0.0437***
	(0.453)	(0.0221)
Pseudo R2	0.1406	0.1541
Observations	2460	6643

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix C

Table 13. Logistic regressions for each pair of waves and separately for men and women

WAVE 1	Men	Women	WAVE 2	Men	Women	WAVE 4	Men	Women
	(1)	(2)		-1	-2		(1)	(2)
VARIABLES	odds ratio	odds ratio	VARIABLES	odds ratio	odds ratio	VARIABLES	odds ratio	odds ratio
Job satisfaction	0.597***	0.626**	Job satisfaction	0.695**	0.746	Job satisfaction	0.796	0.632***
	(0.118)	(0.120)		(0.121)	(0.138)		(0.128)	(0.0938)
Time pressure	1.044	1.635***	Time pressure	1.080	1.267**	Time pressure	0.940	1.310***
	(0.120)	(0.208)		(0.112)	(0.140)		(0.0840)	(0.115)
Lack decision freedom	1.253*	1.300*	Lack decision freedom	1.247**	1.359**	Lack decision freedom	1.288***	1.072
	(0.164)	(0.177)		(0.140)	(0.164)		(0.126)	(0.102)
New skills	0.908	0.896	New skills	0.755**	0.674***	New skills	0.827*	0.682***
	(0.121)	(0.129)		(0.0870)	(0.0828)		(0.0809)	(0.0638)
Support	1.009	1.212	Support	1.078	0.772*	Support	1.069	0.895
	(0.133)	(0.175)		(0.131)	(0.102)		(0.113)	(0.0935)
Recognition	0.942	0.774*	Recognition	0.877	1.182	Recognition	0.888	1.023
	(0.129)	(0.115)		(0.111)	(0.159)		(0.0909)	(0.106)
Okay salary	0.820*	1.122	Okay salary	0.747***	0.805**	Okay salary	0.795**	0.783***
	(0.0971)	(0.138)		(0.0808)	(0.0891)		(0.0766)	(0.0717)
No advancement	1.254*	1.036	No advancement	1.123	0.884	No advancement	1.188*	0.945
	(0.153)	(0.141)		(0.127)	(0.107)		(0.115)	(0.0857)
Poor job security	1.114	1.523***	Poor job security	1.178	1.203	Poor job security	1.045	1.178*
	(0.142)	(0.210)		(0.143)	(0.154)		(0.106)	(0.113)
age	1.033**	1.014	age	1.015	1.022	age	1.018	1.026**
	(0.0154)	(0.0168)		(0.0145)	(0.0153)		(0.0114)	(0.0116)
Baseline category: Sweden			Baseline category: Sweden			Baseline category: Sweden		
Austria	1.571	1.455	Austria	1.584	0.898	Austria	2.631***	1.882**
	(0.482)	(0.501)		(0.662)	(0.455)		(0.899)	(0.526)
Germany	1.339	1.801**	Germany	1.927**	1.553*	Germany	5.576***	2.346***
	(0.326)	(0.413)		(0.509)	(0.371)		(2.126)	(0.734)

Netherlands	1.212	1.180
	(0.290)	(0.296)
Spain	1.264	1.476
	(0.331)	(0.456)
Italy	1.042	1.641*
	(0.268)	(0.472)
France	0.747	1.164
	(0.210)	(0.284)
Denmark	0.563**	0.954
	(0.147)	(0.242)
Greece	0.335***	0.395**
	(0.0936)	(0.154)
Switzerland	0.298***	0.558
	(0.123)	(0.199)
Belgium	0.915	0.763
	(0.214)	(0.194)
Israel	2.388***	3.064***
	(0.543)	(0.719)
Baseline category: Upper secondary education		
No education	1.086	2.274**
	(0.559)	(0.812)
Primary education	1.363*	1.683**
	(0.246)	(0.359)
Lower secondary	1.161	1.546**
	(0.197)	(0.265)
Post secondary	0.775	0.737
	(0.252)	(0.242)
Tertiary education	0.695**	0.750*
	(0.110)	(0.121)
More than tertiary	-	0.771
		(0.663)
Other education	3.488**	1.149
	(2.010)	(0.961)

Netherlands	1.339	1.158
	(0.361)	(0.300)
Spain	1.609*	2.048**
	(0.449)	(0.621)
Italy	0.716	2.250***
	(0.204)	(0.590)
France	1.586*	1.045
	(0.429)	(0.273)
Denmark	0.893	0.892
	(0.226)	(0.205)
Greece	0.366***	0.506**
	(0.104)	(0.153)
Switzerland	0.518**	0.764
	(0.167)	(0.205)
Belgium	1.261	0.915
	(0.330)	(0.244)
Czech Republic	1.366	0.917
	(0.352)	(0.251)
Poland	2.035**	1.349
	(0.576)	(0.377)
Baseline category: Upper secondary education		
No education	1.910	2.486**
	(0.800)	(1.068)
Primary education	1.066	1.552**
	(0.189)	(0.292)
Lower secondary	1.225	1.210
	(0.178)	(0.190)
Post secondary	1.146	1.221
	(0.320)	(0.282)
Tertiary education	0.662***	0.698**
	(0.0904)	(0.0996)
More than tertiary	1.276	0.807
	(0.690)	(0.464)
Other education	0.509	0.576
	(0.524)	(0.462)

Netherlands	2.499***	1.728*
	(0.859)	(0.499)
Spain	2.893***	1.938**
	(0.990)	(0.576)
Italy	3.012***	3.020***
	(1.045)	(0.884)
France	2.993***	2.165***
	(1.007)	(0.580)
Denmark	1.636	1.366
	(0.569)	(0.382)
Switzerland	1.712	1.216
	(0.573)	(0.332)
Belgium	2.124**	1.234
	(0.729)	(0.344)
Czech Republic	3.821***	2.539***
	(1.260)	(0.691)
Slovenia	3.851***	2.952***
	(1.407)	(0.992)
Estonia	11.52***	7.589***
	(3.638)	(1.871)
Baseline category: Upper secondary education		
No education	1.976	5.106***
	(0.880)	(2.239)
Primary education	1.417*	1.955***
	(0.274)	(0.328)
Lower secondary	0.958	1.226*
	(0.121)	(0.150)
Post secondary	1.052	0.744*
	(0.184)	(0.119)
Tertiary education	0.601***	0.635***
	(0.0696)	(0.0691)
More than tertiary	0.439*	1.108
	(0.188)	(0.486)
Other education	0.920	1.028
	(0.813)	(0.658)

Long-term illness	3.578***	3.204***
	(0.398)	(0.373)
Baseline category: White collar high skill		
White collar low skill	0.891	0.938
	(0.166)	(0.134)
Blue collar high skill	1.358*	0.900
	(0.216)	(0.265)
Blue collar low skill	1.303	1.238
	(0.224)	(0.252)
Baseline category: living in a big city		
Suburbs of big city	0.922	0.821
	(0.180)	(0.164)
Large town	1.072	0.909
	(0.211)	(0.185)
Small town	1.022	0.959
	(0.201)	(0.195)
Village	1.137	0.952
	(0.220)	(0.195)
Baseline category: Currently smoking		
Never smoked for at lea	0.746**	0.720**
	(0.105)	(0.101)
Stopped smoking	0.759**	0.699**
	(0.106)	(0.118)
Constant	0.0357***	0.0736***
	(0.0329)	(0.0733)
Pseudo R2	0.1388	0.1301
Observations	2650	2234

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Long-term illness	3.793***	3.995***
	(0.390)	(0.419)
Baseline category: Employee		
Civil servant	0.911	1.172
	(0.148)	(0.198)
Self employed	1.248*	1.132
	(0.164)	(0.181)
Baseline category: living in a big city		
Suburbs of big city	0.696*	0.903
	(0.132)	(0.167)
Large town	0.797	0.807
	(0.143)	(0.144)
Small town	0.859	0.743*
	(0.147)	(0.133)
Village	1.018	0.840
	(0.164)	(0.145)
Baseline category: Currently smoking		
Never smoked for at least	0.597***	0.760**
	(0.0728)	(0.0939)
Stopped smoking	0.619***	0.648***
	(0.0791)	(0.0977)
Constant	0.156**	0.104**
	(0.137)	(0.0969)
Pseudo R2	0.1422	0.1382
Observations	3044	2662

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Long-term illness	3.685***	5.043***
	(0.316)	(0.428)
Baseline category: Employee		
Civil servant	0.926	0.767**
	(0.135)	(0.102)
Self employed	0.954	0.924
	(0.119)	(0.136)
Baseline category: living in a big city		
Suburbs of big city	1.186	0.997
	(0.263)	(0.186)
Large town	1.193	0.880
	(0.250)	(0.149)
Small town	1.447**	0.947
	(0.266)	(0.145)
Village	1.344	1.016
	(0.243)	(0.152)
Baseline category: Currently smoking		
Never smoked for at le	0.600***	0.857
	(0.0625)	(0.0870)
Stopped smoking	0.579***	0.904
	(0.0619)	(0.108)
Constant	0.0375***	0.0291***
	(0.0291)	(0.0213)
Pseudo R2	0.1947	0.2130
Observations	4342	4760

Robust seeform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix D

Table 14: Logistic regressions for each pair of waves covering unemployment rate.

WAVE 1	Unemployment rate	WAVE 2	Unemployment rate	WAVE 4	Unemployme
	-1		(1)		(1)
VARIABLES	odds ratio	VARIABLES	odds ratio	VARIABLES	odds ratio
Unemployment rate	**1.069*** **	**Unemployment rate**	**1.063*** **	**Unemployment rate**	**1.039*** **
	(0.0221)		**(0.0223)**		**(0.00670)**
Job satisfaction	0.662***	Job satisfaction	0.819	Job satisfaction	0.667***
	(0.0888)		(0.108)		(0.0676)
Time pressure	1.241***	Time pressure	1.103	Time pressure	0.886**
	(0.101)		(0.0846)		(0.0517)
Lack decision freedom	1.291***	Lack decision freedom	1.282***	Lack decision freedom	1.270***
	(0.117)		(0.109)		(0.0811)
New skills	0.882	New skills	0.785***	New skills	0.773***
	(0.0817)		(0.0673)		(0.0491)
Support	1.087	Support	0.922	Support	1.084
	(0.104)		(0.0830)		(0.0775)
Recognition	0.905	Recognition	1.002	Recognition	0.861**
	(0.0880)		(0.0933)		(0.0591)
Okay salary	0.880	Okay salary	0.764***	Okay salary	0.651***
	(0.0724)		(0.0597)		(0.0404)
No advancement	1.111	No advancement	0.977	No advancement	1.053
	(0.0975)		(0.0800)		(0.0662)
Poor job security	1.290***	Poor job security	1.153	Poor job security	1.284***
	(0.116)		(0.103)		(0.0825)
age	1.033***	age	1.012	age	1.026***
	(0.0107)		(0.0101)		(0.00758)
Female	1.193**	Female	1.118	Female	0.965
	(0.101)		(0.0839)		(0.0557)

Baseline category: Upper secondary education		Baseline category: Upper secondary education		Baseline category: Upper secondary edu	
No education	1.415	No education	2.348***	No education	2.271***
	(0.389)		(0.667)		(0.651)
Primary education	1.211	Primary education	1.116	Primary education	1.096
	(0.150)		(0.145)		(0.132)
Lower secondary	1.250**	Lower secondary	1.289**	Lower secondary	0.987
	(0.140)		(0.130)		(0.0795)
Post secondary	0.722	Post secondary	0.895	Post secondary	1.334***
	(0.158)		(0.156)		(0.145)
Tertiary education	0.743***	Tertiary education	0.685***	Tertiary education	0.636***
	(0.0807)		(0.0672)		(0.0470)
More than tertiary	0.273*	More than tertiary	1.083	More than tertiary	0.953
	(0.205)		(0.424)		(0.266)
Other education	2.145	Other education	0.540	Other education	0.705
	(1.044)		(0.365)		(0.360)
Long-term illness	3.465***	Long-term illness	4.288***	Long-term illness	4.689***
	(0.269)		(0.318)		(0.269)
Baseline category: White collar high skill		Baseline category: Employee		Baseline category: Employee	
White collar low skill	0.992	Civil servant	0.929	Civil servant	0.721***
	(0.107)		(0.105)		(0.0662)
Blue collar high skill	1.269*	Self employed	0.916	Self employed	0.760***
	(0.169)		(0.0945)		(0.0679)
Blue collar low skill	1.378**				
	(0.173)				

Baseline category: living in a big city		Baseline category: living in a big city		Baseline category: living in a big city	
Suburbs of big city	0.845	Suburbs of big city	0.854	Suburbs of big city	0.757**
	(0.110)		(0.112)		(0.0992)
Large town	0.899	Large town	0.779*	Large town	0.899
	(0.118)		(0.100)		(0.111)
Small town	0.901	Small town	0.885	Small town	1.080
	(0.115)		(0.107)		(0.118)
Village	0.907	Village	1.074	Village	1.083
	(0.114)		(0.124)		(0.115)
Baseline category: Currently smoking		Baseline category: Currently smoking		Baseline category: Currently smoking	
Never smoked for at least o	0.838*	Never smoked for at least on	0.730***	Never smoked for at least c	0.714***
	(0.0802)		(0.0636)		(0.0486)
Stopped smoking	0.809**	Stopped smoking	0.672***	Stopped smoking	0.681***
	(0.0834)		(0.0665)		(0.0518)
Constant	0.0152***	Constant	0.0913***	Constant	0.0708***
	(0.00997)		(0.0567)		(0.0318)
		Pseudo R2	0.1123	PseudoR2	0.1528
Observations	4,91	Observations	5,422	Observations	9,104
Robust seeform in parentheses		Robust seeform in parentheses		seEform in parentheses	
*** p<0.01, ** p<0.05, * p<0.1		*** p<0.01, ** p<0.05, * p<0.1		*** p<0.01, ** p<0.05, * p<0.1	