Sosyal Bilimler Enstitüsü

T.C.
MARMARA ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI
İKTİSAT (İNGİLİZCE) DOKTORA PROGRAMI

JOB SATISFACTION AND WORK-HOUR MISMATCH: DO WELFARE STATES MATTER?

Doktora Tezi

ELİF GÖRAL

İSTANBUL, 2026

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ÖZET

İŞ MEMNUNİYETİ VE ÇALIŞMA SAATİ UYUMSUZLUĞU: REFAH DEVLETLERİNİN ROLÜ

Bu çalışma, fiili ve tercih edilen çalışma saatleri arasındaki uyumsuzluğun iş memnuniyetiyle ilişkisini ve bu ilişkinin refah devletleri arasında farklılık gösterip göstermediğini incelemektedir. Veri seti olarak AB ve AB aday ülkelerini kapsayan 2012 ve 2016 Avrupa Yaşam Kalitesi Anketi (EQLS) kullanılmaktadır. Araştırma sorusu betimsel analizlere ek olarak en küçük kareler yöntemi ile ampirik olarak incelenmektedir. Çalışma saati uyumsuzluğu, fiili ve tercih edilen saatler arasındaki fark olarak tanımlanmakta; eksik istihdam (tercih edilenden daha az çalışma) ve aşırı istihdam (tercih edilenden daha fazla çalışma) şeklinde ele alınmaktadır. Çalışma, refah devleti çerçevesini iki tamamlayıcı boyut (refah rejimi sınıflandırması ve kamu hizmet kalitesi) üzerinden ele alarak mevcut literatüre katkı sağlamaktadır. Refah devletlerinin, bireylerin piyasa mekanizmalarına bağımlı kalmadan insani bir yaşam standardı sürdürebilmelerini sağlama kapasiteleri farklılık göstermektedir. Bu farklılıklardan yola çıkan çalışma, literatürde yeterince incelenmemiş bir perspektife odaklanarak; refah devleti özelliklerinin, çalışma saati uyumsuzluğu ile iş tatmini arasındaki ilişki üzerindeki düzenleyici etkisini incelemektedir. Bulgular, hem eksik istihdamın hem de aşırı istihdamın iş memnuniyetiyle negatif ilişkili olduğunu ve eksik istihdamın etkisinin görece daha güçlü olduğunu ortaya koymaktadır. Eksik istihdam katsayısı, algılanan gelir yeterliliği kontrol edildiğinde belirgin biçimde düşerken, aşırı istihdam katsayısı ise iş-aile dengesi kontrol edildiğinde zayıflamaktadır. Bu durum, iki uyumsuzluk türünün farklı mekanizmalar aracılığıyla işlediğine işaret etmektedir. Refah devletleri hem iş memnuniyetini hem de uyumsuzluğun iş memnuniyeti üzerindeki negatif etkisini şekillendirmektedir. Özellikle sosyal-demokrat rejimlerde çalışma saatlerindeki uyumsuzluğun etkisi diğer gruplara kıyasla düşük bulunmuştur. Bunun yanı sıra, kamusal hizmetlerin kalitesi iş memnuniyetiyle pozitif ilişkili olup çalışma saati uyumsuzluğunun olumsuz etkisini azalttığı görülmüştür.

Anahtar Kelimeler: İş memnuniyeti; Çalışma saati uyumsuzluğu; Eksik istihdam; Aşırı istihdam; Çalışma saatleri; Refah devletleri, Kamusal hizmetlerin kalitesi

JEL Kodları: J22; J28; I31; P51; H41

ABSTRACT

JOB SATISFACTION AND WORK-HOUR MISMATCH: DO WELFARE STATES MATTER?

This thesis examines whether the gap between actual and preferred working hours is associated with job satisfaction, and whether this relationship varies across welfare states. The analysis draws on pooled data from the 2012 and 2016 waves of the European Quality of Life Survey (EQLS), covering EU member states and candidate countries, and employs OLS regression. Work-hour mismatch is defined as the difference between actual and preferred hours, distinguishing under-employment (working fewer hours than preferred) from over-employment (working more hours than preferred). The study contributes to the existing literature by incorporating a welfare state framework through two dimensions: welfare regime classification and the quality of public services. Since welfare states vary in their capacity to ensure a decent standard of living independently of market mechanisms, this study examines the moderating role of welfare state characteristics on the mismatch-job satisfaction relationship, a perspective that has received limited attention in the literature. The results indicate that both under-employment and over-employment are negatively associated with job satisfaction, with under-employment having a somewhat stronger effect. The under-employment coefficient attenuates substantially after controlling for perceived income sufficiency, while the over-employment coefficient attenuates after controlling for work-family balance, suggesting the two forms operate through distinct mechanisms. Welfare states shape both baseline job satisfaction and the magnitude of the mismatch penalty. In particular, the penalty is smallest in social-democratic regimes. Furthermore, higher quality of public services is positively associated with job satisfaction and appears to reduce the negative effect of work-hour mismatch.

Keywords: Job satisfaction; Work-hour mismatch; Underemployment; Overemployment; Working hours; Welfare regimes, Quality of public services

JEL Codes: J22; J28; I31; P51; H41

To my mother and father

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"The logical thing would perhaps be to thank everyone I've ever known, because you never know where your ideas really came from."

Toward An Anthropological Theory of Value,
David Graeber

Writing this thesis has been a long journey with many ups and downs. As the research question revolves around deviations between preferred and actual working hours, there were instances when I found myself working far more hours than I would have preferred, which gave me a more personal understanding of the topic than I had anticipated. I would not have reached the end of it without the support of many people.

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LIST OF ABBREVIATIONS

BHPS	British Household Panel Survey
EQLS	European Quality of Life Survey
ESS	European Social Survey
EU	European Union
Eurofound	European Foundation for the Improvement of Living and Working Conditions
EWCS	European Working Conditions Survey
GSOEP	German Socio-Economic Panel
HILDA	Household, Income and Labour Dynamics in Australia Survey
ILO	International Labour Organization
ISCO	The International Standard Classification of Occupations
ISSP	International Social Survey Programme
KWCS	Korean Working Conditions Survey
MICE	Multiple Imputation by Chained Equations
OLS	Ordinary Least Squares
PMM	Predictive Mean Matching
UKWL	UK Working Lives Survey
WES	Canadian Workplace and Employee Survey

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1. INTRODUCTION

This study aims to examine whether deviations from desired working hours affect job satisfaction and how this relationship is shaped by the welfare state. The framework employed here is motivated by a core feature of social policy: de-commodification, which refers to the capacity of individuals to maintain a decent standard of living independently of market forces. By protecting labor against market risks and unforeseen life events, welfare states play a central role in promoting overall well-being (Esping-Andersen, 1990). Furthermore, they may moderate the relationship between well-being and work-hour mismatches by implementing labor regulations, such as caps on maximum working hours, providing employment security, supporting work-life balance, and ensuring the provision of public goods. These functions shape employment relations by providing workers with greater agency and bargaining power (Emmenegger et al., 2015; Radcliff, 2013, 2001). Consequently, this supportive environment may enable individuals to secure positions that better align with their preferred working hours, thereby enhancing job satisfaction.

According to neoclassical labor supply theory, and under the assumptions of rational behavior and perfectly competitive labor markets, individuals are free to choose the number of hours they work. In this framework, they select their working hours based on personal preferences, maximizing utility within the constraints of time and income. However, both empirical evidence and theoretical insights suggest that individuals frequently face barriers to achieving their preferred hours. As a result, discrepancies between desired and actual working time are well documented (Beckmannshagen and Schröder, 2022; Reynolds and Aletraris, 2010; Grund and Tilkes, 2023; Otterbach, 2010).

Work-hour mismatches occur in two forms: individuals can either be over-employed, meaning they work more than they desire, or under-employed, meaning they work less than they desire. Both over-employment and under-employment can be interpreted as a form of market failure arising from structural and institutional constraints. One major source of work-hour mismatch is the persistent conflict between employer and employee preferences: employers may prefer longer hours to increase labor utilization and output and to avoid the fixed costs of hiring additional workers, while employees often value shorter or more flexible schedules to achieve better work-life balance (Boeri and van Ours, 2021; Golden, 1996). Moreover, mismatches can reflect changes in personal circumstances, such as caregiving responsibilities

or health limitations. When jobs are characterized by rigid demands or unstable scheduling, workers may be unable to adapt their hours to match their needs, leading to gaps between actual and desired working time (Reynolds and McKinzie, 2019).

Such mismatches have notable implications for well-being. Under-employment may restrict income and limit career advancement, while over-employment reduces leisure time and undermines work-life balance. Both situations are associated with lower subjective wellbeing (Sturman and Walsh, 2014). While both under-employment and over-employment are negatively associated with job satisfaction, their relative effects may vary. Excessive hours restrict time for rest and personal life, undermining work-life balance. Part-time jobs, which are typically associated with underemployment, are often characterized by lower job quality, limited security, and fewer advancement opportunities (Başlevent and Kirmanoğlu, 2014; Miranti and Li, 2020). Whether the negative effect is stronger for under-employment or over-employment varies across studies. For example, Wooden et al. (2009) find stronger effects for over-employment, whereas Wunder and Heineck (2013) find under-employment to be more harmful.

This study specifically examines job satisfaction, which is considered a core dimension of subjective well-being. In general terms, job satisfaction represents employees' overall evaluation of their work, and it matters for both personal well-being and labor market outcomes. While mainstream economic theory often equates utility from work with wages, job satisfaction provides a broader measure of the utility derived from employment. It enables workers to compare their current job with outside opportunities and reflects the quality of their working conditions (Frey, 2008; Hamermesh, 2001).

The significance of job satisfaction as an economic variable was first demonstrated by Freeman (1978). Although job satisfaction is often viewed with skepticism in economics, his seminal contribution showed that it predicts labor mobility and should therefore be considered relevant for economic analysis. In addition to labor mobility, job satisfaction affects other economic outcomes such as absenteeism, productivity, and union participation (Aleksynska, 2018; Halkos and Bousinakis, 2010; Freeman, 1978; Borjas, 1979; Oswald et al., 2015), as well as turnover, organizational commitment, and customer satisfaction (Costen, 2012; Locke, 1976).

The effect of work-hour mismatch on job satisfaction and subjective well-being can be explained by discrepancy theory. Although not limited to work-hour mismatch, this theory is frequently used in the job satisfaction literature. It suggests that dissatisfaction arises when actual experiences fall short of individuals' desires and expectations (Rosen and Rosen, 1955; Locke, 1969). Consistent with this theory, it is the mismatch itself, rather than the absolute number of hours worked, that significantly reduces

well-being (Angrave and Charlwood, 2015; Wooden et al., 2009).

Recognizing these mismatches highlights a role for the state. Public policy has the potential to enhance worker well-being by helping individuals achieve their preferred working hours without undermining productivity or the welfare of others. Governments can create institutional frameworks that enable a more equitable distribution of working time, such as through labor market regulation or technological innovation that reduces excess hours (Golden, 1996).

At this point, the welfare state framework becomes highly relevant. Welfare arrangements shape how individuals interact with the labor market and the extent to which they must rely on paid work to maintain a decent standard of living. Esping-Andersen (1990) conceptualizes this through the idea of de-commodification, which refers to the degree to which individuals can sustain themselves without complete dependence on market income. Labor, unlike other goods, is embodied in human beings who must survive and reproduce in society. Welfare states policies can protect individuals from total market dependency and influence their bargaining power in employment relations. In addition, they can act as systems of social stratification by redistributing income and shaping social relationships beyond purely market driven outcomes (Esping-Andersen, 1990).

Because of these functions, the welfare state plays a central role in determining the conditions under which individuals can achieve their preferred working hours. Welfare regimes differ substantially in how they regulate working time, provide employment security, and support work-life balance (Emmenegger and Marx, 2021). By reducing exposure to market risks and promoting stability, welfare states contribute to higher living standards and improved well-being. They also foster agency by strengthening individuals' ability to act in line with their preferences (Radcliff, 2013, 2001).

These institutional differences reflect historical legacies, political dynamics, and path-dependent developments, resulting in distinct welfare models across countries (Kuhnle and Sander, 2010; Skocpol and Amenta, 1986; Immergut, 2021). To better analyze cross-national variation, researchers have developed welfare state typologies that categorize countries based on shared characteristics. Such typologies simplify complex realities by grouping states into internally similar yet externally distinct clusters, thereby enhancing conceptual clarity and analytical precision (Höppner, 2024).

Among these, Esping-Andersen (1990)'s regime typology remains the most influential. It is grounded in the idea that different trajectories of industrialization created unique configurations of state, market, and family roles. Rather than ranking countries by spending levels, the typology identifies "ideal types" that represent distinct welfare logics. These logics are primarily defined by their approach to de-commodification (the

extent to which a citizen's livelihood is independent of the market) and social stratification (how the state organizes social hierarchy). For instance, the liberal logic prioritizes market efficiency and means-tested support; the conservative logic focuses on status-preservation and the traditional family unit; and the social-democratic logic is built on the principle of universalism and equalizing social rights. In practice, however, most modern countries operate as hybrid systems, blending these distinct logics to address contemporary economic and demographic pressures (Esping-Andersen, 2024). Overall, welfare regime classifications provide a structured way to compare policy designs and predict their consequences. Table 1.1 summarizes the main regime types and their defining characteristics, offering a conceptual foundation for the comparative analysis that follows in this study.

These regime types serve not only as heuristic tools but also suggest underlying institutional logics that may shape labor market dynamics, influence job satisfaction and affect the extent to which countries are able to manage work-hour mismatches. For instance, in social-democratic systems, generous family policies and active labor market programs can support individuals in aligning working time more closely with personal preferences. In contrast, liberal regimes, with more limited state intervention and weaker labor protections, may leave individuals with fewer options, which can increase the likelihood of accepting mismatched hours for economic reasons. In this sense, deviations from desired working hours can be understood not only as potential market imperfections but also as outcomes that are shaped by welfare state institutions and broader policy contexts.

Building on this framework, the aim of this study is to examine how deviations between desired and actual working hours affect job satisfaction, and how this relationship is shaped by welfare states. The welfare state framework is primarily based on Esping-Andersen's ideal type classification, with extensions to ensure coverage of all countries included in the European Quality of Life Survey (EQLS). Welfare states can influence both the prevalence and the consequences of work-hour mismatch. Through working time regulations and active labor market policies, they may help reduce the negative effects of mismatch and support subjective well-being. While the regime framework has been applied in studies on income related health disparities (Eikemo et al., 2008a), gender differences in job satisfaction (Kaiser, 2007) and subjective well-being (Ling et al., 2025), it has not, to the best of current knowledge, been used specifically to examine the relationship between job satisfaction and work-hour mismatch. Given that job satisfaction captures the utility derived from employment, this represents a relevant gap in the literature.

Although Esping-Andersen's classification has gained paradigmatic status and is expected to remain influential in welfare state research (Emmenegger et al., 2015), it was developed in the early 1990s and

Table 1.1: Welfare Regime Types and Their Key Features

Regime	Features
Social-democratic (Nordic, Scandinavian)	**Countries:** Denmark, Sweden, Finland Generous benefits based on universal principles, high de-commodification, and broad social rights not tied to employment status. The state finances services through general taxation. The model emphasizes cross-class solidarity, high labor force participation, a strong link between work and welfare, and gender equality supported by extensive childcare and parental leave programs.
Conservative-corporatist (Continental)	**Countries:** Austria, Belgium, Germany, France, Luxembourg, Netherlands Moderate de-commodification with benefits rooted in employment status. Social insurance preserves existing status hierarchies, while redistribution is limited. The principle of subsidiarity applies: families are expected to provide primary support. The system is influenced by Christian-democratic traditions and conventional family roles.
Liberal (Anglo-Saxon)	**Countries:** United Kingdom, Ireland Low de-commodification and limited state intervention. Market solutions are prioritized, and social assistance is largely means-tested with low benefit levels. Welfare provision is often residual and may carry stigma. Gender and family support policies remain relatively weak.
Southern European (Mediterranean)	**Countries:** Greece, Italy, Spain, Portugal, Cyprus, Malta, Türkiye Fragmented and status-based income support systems with generous pension protection but significant coverage gaps. A mixed model that combines Bismarckian and universal elements in healthcare. Welfare provision relies heavily on the family and community support. Selective and clientelist benefit distribution continues to play an important role.
Central and Eastern European (Post-socialist)	**Countries:** Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Serbia, Montenegro, North Macedonia Hybrid systems combining socialist universalism with Bismarckian insurance and post-1990 market liberalization. Institutional instability and lower fiscal capacity constrain welfare provision. Means-testing is significant, social spending is restrained, and informal or family-based care remains important.

Sources: Social-democratic: (Esping-Andersen, 1990; Garland, 2016; van Gerven, 2022); Conservative-corporatist: (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022); Liberal: (Esping-Andersen, 1990; Garland, 2016; Heins and Dukelow, 2022); Southern: (Ferrera, 1996; Gal, 2010; Natili and Jessoula, 2022); Central and Eastern Europe: (Deacon, 1992; Cerami and Vanhuysse, 2009; Fenger, 2007; Hrast and Dobrotić, 2022).

may not fully reflect the characteristics of contemporary welfare arrangements. As a result, the effects of welfare states observed in this study may not always align with theoretical expectations. More recent research suggests some degree of convergence among European welfare states. For example, Tkacova et al. (2024) find that regime differences have narrowed, identifying one group consisting of southern and EU candidate countries and another covering the rest of Europe.

To address this issue at least in part, the study also includes perceived quality of public services as an individual level indicator of welfare state strength. Welfare states can influence well-being by providing public goods and services. Perceived quality of public services has been shown to have a strong relationship

with life satisfaction (Cnaan, 1989). High quality services can help maintain social cohesion during economic hardship and support individuals in preserving dignity and social status (Andrews and Jilke, 2016). By ensuring access to health care, education and other vital services, welfare states may enhance social inclusion and improve subjective well-being (Eurofound, 2017). In the empirical analysis, the strength of welfare states is assessed through respondents' evaluations of the quality of health care, education, public transport, child care, long term care and social housing. Each item is measured on a six-point scale, and their sum is used as an individual level proxy for perceived welfare state strength.

The primary focus of this study is the relationship between work-hour mismatch and job satisfaction, and the role of welfare states in this relationship. The remainder of the study is organized to provide a structured theoretical and empirical discussion. Chapter 2 develops the theoretical background of the research question. It begins by discussing the importance of job satisfaction as an economic outcome and then introduces work-hour mismatch as the main explanatory variable of this thesis. As job satisfaction constitutes an important dimension of subjective well-being, evidence from broader subjective well-being research is also incorporated to shed light on possible mechanisms linking mismatch and satisfaction. This chapter further describes the control variables used in the analysis, including age, gender, education, household size, urbanization of the residential area, occupation, sector of employment, contract type, commuting time, wage and income sufficiency, work-life balance and health status. The second part of the theoretical framework chapter outlines the evolution and characteristics of European welfare states and discusses their potential links to subjective well-being. The chapter concludes by summarizing the expected contribution of the study. Chapter 3 presents the data and methodology, including the empirical model and stated hypotheses. Chapter 4 provides descriptive findings related to the research question, and Chapter 5 presents the empirical results. Chapter 6 concludes the study.

2. THEORETICAL FRAMEWORK

This study aims to examine how work-hour mismatch affects job satisfaction and how welfare states may shape this relationship. Work-hour mismatch is expected to be associated with lower job satisfaction, while welfare states and perceived quality of public services may buffer some of this negative association. The purpose of this chapter is to provide the theoretical background for these expectations.

The first part of the chapter discusses the recognition of job satisfaction as an economic variable and reviews its main determinants, with a particular focus on the variables that will be used in the empirical analysis. Special attention is given to the main explanatory variable, work-hour mismatch. The second part introduces European welfare states, outlining why they exist, how they have developed over time, how they relate to labor markets and how they are commonly classified. The third part examines the relationship between welfare states and subjective well-being. The fourth and final part outlines the expected contributions of the thesis in more detail.

2.1. Job Satisfaction in Economic Research

In its most general form, job satisfaction refers to employees' overall evaluation of their jobs. It captures how individuals subjectively assess their job and the utility they derive from it. Since job satisfaction reflects the utility obtained from work, it enables individuals to compare their current job with alternative opportunities available in the labor market. Accordingly, job satisfaction serves as an informative indicator not only of workers' well-being but also of labor market dynamics (Frey, 2008; Hamermesh, 2001).

Job satisfaction can be measured either as an overall evaluation of one's work, typically through a survey question such as "How satisfied are you with your job?". In addition, job satisfaction consists of several specific facets that can be measured by questions such as "satisfaction with coworkers," "satisfaction with pay," "satisfaction with supervisors," and "satisfaction with promotion opportunities" (Bowling et al., 2018).

The importance of job satisfaction as an economic variable was first emphasized by Freeman (1978). In this seminal paper, it was found that job satisfaction has implications, especially for labor market mobility. Besides mobility, job satisfaction also affects absenteeism, worker productivity, and unionism

(Aleksynska, 2018; Halkos and Bousinakis, 2010; Freeman, 1978; Borjas, 1979; Oswald et al., 2015), as well as turnover rates, organizational commitment, and customer satisfaction (Costen, 2012; Locke, 1976).

In addition to measuring the utility obtained from work and its effects on labor market outcomes, job satisfaction is one of the most important domains of life satisfaction, an alternative measure to GDP per capita that is used to evaluate the well-being of individuals (Frey, 2008). The association between job satisfaction and life satisfaction is considered reciprocal both cross-sectionally and longitudinally. That is, an increase in job satisfaction improves life satisfaction, while an improvement in life satisfaction positively affects job satisfaction (Judge and Watanabe, 1993). In addition to this direct relationship, job satisfaction also affects life satisfaction indirectly through physical and mental health. The relationship is considered endogenous: health affects both job satisfaction and life satisfaction, but through working conditions, job satisfaction also affects health. Depending on the working environment, individuals may experience physical strain as well as feelings of burnout and anxiety (Faragher et al., 2005).

Despite some earlier studies by Freeman (1978) and Layard (1980), the use of job satisfaction in the field of economics is relatively recent. Although the study of job satisfaction dates back much earlier in disciplines such as psychology and sociology (see Table 2.1), economists were long reluctant to employ job satisfaction and other subjective well-being indicators, as these measures are obtained from survey questions and reflect *stated* rather than *revealed*-preferences (Drakopoulos, 2020). This reluctance stemmed largely from the behaviorist perspective adopted within the field. That is, it was commonly believed that observable actions are more informative than self-reported measures, which contributed to economists' hesitancy to rely on subjective data (Easterlin, 2004).

Using subjective well-being measures in general, and job satisfaction in particular, as economic variables coincides with the emergence of behavioral economics in the late 1970s. With the rise of behavioral economics, the importance of stated-preferences was increasingly recognized. Pioneering contributions such as Prospect Theory (Kahneman and Tversky, 1979) and subsequent work on heuristics, loss aversion, and reference dependence showed that people's experienced well-being often diverges from what traditional models would predict. This development led to greater interest in subjective measures, particularly within the emerging "economics of happiness" literature, which treats reported feelings as indicators of well-being (Frey and Stutzer, 2002).

The historical development of job satisfaction research can be summarized in Table 2.1. In the periods after the Great Depression and the mid-century, job satisfaction studies focused on monotonous jobs, perceived unfairness, relationships with supervisors, self-actualization, emotions, and individual dispositions,

Table 2.1: Historical Development of Job Satisfaction Research

Period	Summary
After Great Depression (1929)	Job satisfaction became a subject of research following the Great Depression. Due to the economic crisis, dissatisfaction in the workplace became more widespread, prompting researchers to examine its causes. Fisher and Hanna (1931)'s seminal book *The Dissatisfied Worker* discussed that, besides wages and long hours, factors like monotony, repetitive tasks, poor relationships with supervisors, and perceived unfairness also contributed to dissatisfaction. They were among the first to emphasize that emotional and psychological aspects of work matter.
Mid-Century Adjustments (1950-1960)	During this period, job satisfaction research advanced methodologically and conceptually. Brayfield and Rothe (1951) developed an 18-item Likert-scale questionnaire to assess job satisfaction. Sample items include: "There are some conditions concerning my job that could be improved," and "My job is usually interesting enough to keep me from getting bored." Researchers also examined the effects of job satisfaction on turnover and performance. Although later studies were skeptical of some claims, Herzberg's two-factor theory significantly contributed by distinguishing between the causes of job satisfaction and dissatisfaction.
Humanist Perspectives (1950–1960)	This approach emphasized self-actualization, employee achievement, decision-making participation, and autonomy, arguing that these factors enhance job satisfaction.
Cognitive Perspectives (1960–1980)	Advances in cognitive psychology influenced job satisfaction research. The Cornell model posited that frames of reference, such as past experiences, economic conditions, and living standards,shape satisfaction. Locke's Discrepancy Theory (1969) added that dissatisfaction arises when there is a gap between actual and desired job characteristics, especially if the characteristic is important to the individual.
Dispositional Perspectives (1980–2000)	This view holds that individuals' dispositions influence job satisfaction. Key contributions include the Five-Factor Model (Digman, 1990) and core self-evaluations, encompassing traits like neuroticism, extraversion, openness, agreeableness, and conscientiousness.
Affective Perspective (1990–Today)	With growing recognition of the role of emotions, Affective Events Theory (AET) emerged. It proposes that job satisfaction is influenced by emotions, which in turn are shaped by workplace events and environments.

Note. The summary is based on Judge et al. (2020).

concepts that were largely absent from economic models at the time. Thus, while job satisfaction research incorporated many behavioral insights, it was only with the growing influence of behavioral economics that economists began to view job satisfaction as a legitimate proxy for utility and labor market outcomes.

2.1.1. Determinants of Job Satisfaction

In this section, the determinants of job satisfaction are discussed. The focus is on the variables that will be employed in the descriptive and empirical analyses, namely gender, age, education level, household size, degree of urbanization of the neighborhood, occupation, sector of employment, type of contract, commuting time, wages and income sufficiency, work-life balance and health status. As an overall evaluation of the literature, it can be inferred that there is no clear consensus on how these factors are

associated with job satisfaction. The direction and magnitude of the estimated effects often vary across countries, time periods and data sets, and they appear to depend on the institutional and cultural context. Expectations may also play an important role in shaping these relationships. For instance, some studies find that, despite facing worse working conditions, women report higher job satisfaction than men, and that higher levels of education are sometimes associated with lower job satisfaction because of higher expectations. Similarly, temporary employees may report relatively high job satisfaction if they have lower expectations regarding job quality, and in some cases relative rather than absolute wage levels seem to be more relevant for job satisfaction. These effects will be discussed in more detail later in this section.

The variables used in this study are chosen on the basis of the existing literature, the availability of variables in the EQLS data and their compatibility with the research question. Since these variables are incorporated as control variables, they are selected so as to remedy omitted-variable bias in the estimated association between working-time mismatch and job satisfaction. However, the determinants of job satisfaction are not limited to these variables. For instance, as summarized in Table 2.1, the variables that affect job satisfaction have evolved over time. Based on this review, wages, working hours, monotony of work, relationships with supervisors or perceived unfairness, career prospects, self-actualization at work, participation in the decision-making process, autonomy at work, past economic conditions and living standards, personality traits and emotions are also found to affect job satisfaction (Judge et al., 2020; Alegre et al., 2016). Many of these factors are not directly observed in the EQLS and thus cannot be incorporated in the descriptive and empirical analysis. Beyond microeconomic variables, job satisfaction is also influenced by macroeconomic conditions such as the unemployment rate, unionization, inequality and average wage levels (Pichler and Wallace, 2009), as well as macroeconomic fluctuations (Artz and Kaya, 2014; Ravid et al., 2017). Including these variables explicitly in the analysis is beyond the scope of this study; instead, these broader contextual effects are partly captured indirectly through country and wave fixed effects rather than being modeled explicitly.

2.1.1.1. Work-Hour Mismatch

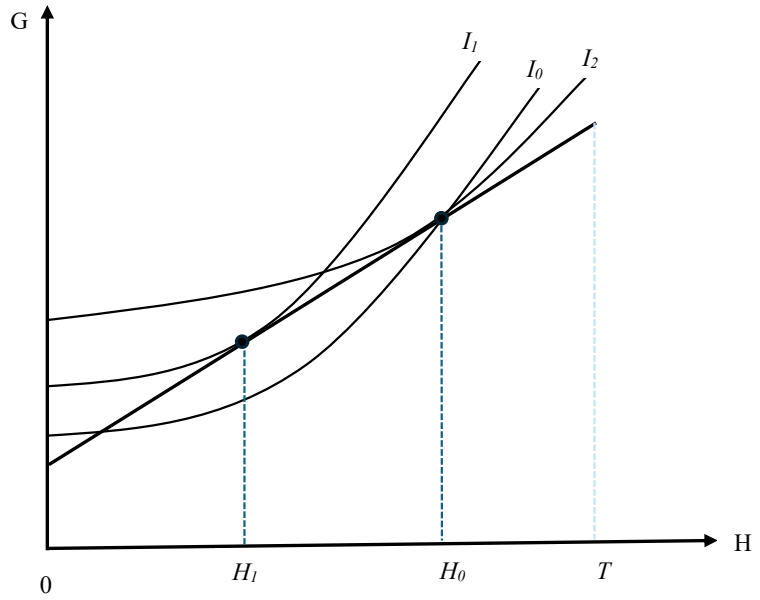
The main independent variable of this study is work-hour mismatch, or work-hour congruence, which captures the degree of alignment between individuals' preferred and actual working hours. In other words, it reflects the deviation between what individuals would like in terms of working hours and what they actually experience. The effect of work-hour mismatch on job satisfaction can be understood through discrepancy theory. Although this theory is not limited to job satisfaction and can be applied to any situation where perceptions and realities diverge, it has been widely used in the job satisfaction literature.

According to discrepancy theory, job dissatisfaction arises when individuals' wants or desires are not fulfilled (Rosen and Rosen, 1955; Locke, 1969).

The neoclassical view of labor supply suggests that individuals are free to choose their preferred working hours at a given wage rate and that, under the assumptions of rational behavior and perfectly competitive markets, actual hours should coincide with preferred hours. In practice, however, discrepancies often arise, leading to losses in utility. From this perspective, work-hour mismatches may be seen as reflecting market imperfections stemming from structural and institutional constraints. One important source of mismatch is the persistent conflict between employer and employee preferences. While employers may seek longer hours to increase profits, employees often value shorter or more flexible hours to enhance work-life balance and personal well-being (Golden, 1996; Kugler and Wiencierz, 2014). In addition, mismatches can emerge from changes in personal circumstances, such as caregiving responsibilities or health conditions. When job demands remain rigid and work schedules unstable, workers may be unable to adjust their hours accordingly, resulting in a gap between actual and desired working hours (Reynolds and McKinzie, 2019).

This relationship is illustrated in Figure 2.1, which presents a neoclassical labor-leisure model. The utility of an individual is described by the function $U(G, H, e)$, where G denotes a composite good (overall consumption financed by labor income) and H denotes actual hours worked. Since hours worked reduce leisure, H is treated as a "bad" rather than a "good" in this setup. Accordingly, the indifference curves are drawn to reflect that, holding consumption constant, higher H lowers utility. Individuals also differ in how much they value consumption relative to work; this is captured by the preference parameter e. As a result, two individuals facing the same combination of G and H may experience different levels of well-being. The curves I_0, I_1 and I_2 are indifference curves, each representing combinations of G and H that yield the same level of utility U. In a frictionless setting where hours could be freely chosen anywhere between zero and total available time T, the worker would select the desired number of hours H_1, where the indifference curve I_1 is tangent to the budget line. In reality, however, employers often offer jobs with fixed working hours because of legal rules, production requirements or collective agreements. For simplicity, it is assumed that all available jobs have the same fixed hours, H_0. The difference between desired hours H_1 and actual hours H_0 is the hours mismatch, $M = H_1 - H_0$. When $M > 0$, the worker would like to work more hours than the job provides and is therefore under-employed; when $M < 0$, the job requires more hours than the worker would ideally choose, so the worker is over-employed (Kugler and Wiencierz, 2014).

Figure 2.1: Labor Supply and Work-Hour Mismatch



Source: Kugler and Wiencierz (2014).

Within this framework, evidence on the relationship between working hours and subjective well-being indicators such as life satisfaction and job satisfaction appears to be mixed. Several studies suggest that long working hours, in themselves, are not systematically associated with lower subjective well-being. Rather, discrepancies between actual and desired working hours seem to be more important for explaining dissatisfaction (Sturman and Walsh, 2014; Wooden et al., 2009; Angrave and Charlwood, 2015; Kim et al., 2023). Although shorter working hours are more often associated with a higher likelihood of under-employment (Wooden et al., 2009) and longer working hours with a greater risk of over-employment, it is the presence of a mismatch that is generally found to be related to lower levels of well-being (Angrave and Charlwood, 2015; Wooden et al., 2009; Kim et al., 2023).

Table 2.2 summarizes key studies on work-hour mismatch and subjective well-being. For each study, it reports how the mismatch variable is defined, the dependent variables used, the data, country and time frame, the empirical method, and a brief description of the main findings. Most of these contributions examine the association between work-hour deviation and subjective well-being indicators such as job satisfaction, life satisfaction and mental well-being. Because these indicators are closely related, several studies such as Sturman and Walsh (2014), Bell and Blanchflower (2019), Wooden et al. (2009), Kugler and Wiencierz (2014), and Angrave and Charlwood (2015) analyze multiple outcomes simultaneously, including job satisfaction, life satisfaction, mental well-being, work-life balance, job stress and turnover intention.

When individuals are unable to attain their desired working hours, their everyday lives are affected in different ways. Those who would like to work more hours may forgo potential earnings and experience financial strain, whereas those who work longer hours than they prefer may have less time available for leisure, family and other non-work activities (Sturman and Walsh, 2014). The evidence on whether under-employment or over-employment has the stronger impact is not entirely consistent across studies. However, a number of contributions suggest that over-employment tends to be more detrimental. For example, Wooden et al. (2009) find that over-employment has a larger negative effect on job and life satisfaction. Pagan (2017) and Frei and Grund (2022) similarly report that the impact of over-employment on job satisfaction is stronger than that of under-employment, while Ling et al. (2025) find a comparable pattern for broader measures of subjective well-being. Examining job satisfaction, life satisfaction and overall well-being, Angrave and Charlwood (2015) also conclude that over-employment is more strongly associated with poorer outcomes. Finally, Bell et al. (2012) and De Moortel et al. (2018) document stronger adverse effects of over-employment on health satisfaction and self-assessed health.

At the same time, there is also evidence that under-employment can have a stronger impact on subjective well-being. Drawing on prospect theory, which posits that gains and losses have different utility effects and that individuals are generally loss averse, the impact of under-employment may exceed that of over-employment. If under-employment is interpreted as a loss of working hours, and thus of associated benefits such as higher potential income and greater security, this loss may be perceived more strongly than the corresponding "gain" in hours associated with over-employment (Kahneman and Tversky, 1979). Empirically, Wunder and Heineck (2013) find that under-employment poses a more serious problem for life satisfaction. Similarly, Kugler and Wiencierz (2014) report stronger adverse effects of under-employment on both job and life satisfaction; Kim et al. (2021) find a larger negative impact of under-employment on depression; Bell and Blanchflower (2019) document stronger effects on happiness, life satisfaction, feelings that life is worthwhile, and anxiety; and Miranti and Li (2020) identify a more pronounced association between under-employment and poorer mental health.

Taken together, these studies do not seem to share a common pattern in terms of the countries they examine, the data they use, the time periods covered or the specific subjective well-being indicators analyzed. For instance, even when using the same dataset (GSOEP) and the same period, Wunder and Heineck (2013) and Pagan (2017) report different effect magnitudes. This suggests that the effects of under-employment and over-employment are context dependent rather than universal. Nevertheless, based on the current evidence, it seems reasonable to conclude that work-hour mismatch in general is negatively associated with subjective well-being. An exception is De Moortel et al. (2017), who find that once income sufficiency

is included in the empirical specification, the effect of under-employment disappears, highlighting the role of income sufficiency in the relationship between under-employment and subjective well-being. In a similar vein, although Ling et al. (2025) find that both over-employment and under-employment affect life satisfaction, the effect of under-employment disappears and the effect of over-employment becomes smaller in liberal welfare regimes, which they attribute to greater labor-market flexibility. Comparing two countries, Otterbach et al. (2016) find that under-employment is associated with subjective well-being only in Australia and not in Germany, underlining the importance of labor-market and institutional differences.

One important issue in empirical work on work-hour mismatch is how the mismatch variable is measured. The third column of Table 2.2 reports the specific measures used in each study. In most cases, work-hour mismatch is constructed from two survey questions: one on actual working hours and one on desired working hours. Actual working hours are typically measured with a question such as: "How many hours do you usually work per week in your main paid job?" Desired working hours are often elicited with a question such as: "How many hours a week, if any, would you choose to work, bearing in mind that your earnings would go up or down according to how many hours you work?" The mismatch variable is then obtained by taking the difference between actual and desired working hours.

Based on this difference, a widely used approach is to categorize individuals directly. If this difference is zero, the respondent is classified as "matched" or "no deviation," indicating the ideal situation. If actual working hours exceed desired hours (i.e. the difference is greater than zero), the individual is categorized as "over-employed." Conversely, if actual working hours are fewer than desired (i.e. the difference is less than zero), the person is considered "under-employed." This method has been employed in several studies, including De Moortel et al. (2018), Pagan (2017), Ling et al. (2025), Kim et al. (2023), Bartoll and Ramos (2020), Zhang et al. (2023), Reynolds and Aletraris (2010), Kim et al. (2021), and Sturman and Walsh (2014).

An alternative way to measure work-hour mismatch is to use a direct preference question such as: "Think of the number of hours you work and the money you earn in your main job. If you only had one of these three choices, which of the following would you prefer: work longer hours and earn more money; work the same number of hours and earn the same money; or work fewer hours and earn less money?" This categorical approach has been used in several studies Wooden et al. (2009), Angrave and Charlwood (2015), Schalembier et al. (2019), Otterbach (2010), and Bell et al. (2012).

Both approaches allow researchers to identify over-employment and under-employment, with "matched" workers serving as the reference category. Although intuitive and widely used, this categorical strategy

does not provide information about the magnitude of the mismatch. To address this limitation, several studies model work-hour mismatch as a continuous variable. Because the interpretation of the variable differs on either side of zero, researchers often construct two separate variables: one for positive gaps (indicating over-employment in hours) and another for negative gaps (indicating under-employment in hours), as in Wunder and Heineck (2013), Başlevent and Kirmanoğlu (2014), Grund and Tilkes (2023), Otterbach et al. (2021), Frei and Grund (2022), Bell and Blanchflower (2019), Miranti and Li (2020), Lee et al. (2015), and Kugler and Wiencierz (2014). In this framework, a one-hour increase in either over-employment or under-employment is typically assumed to have the same marginal effect, regardless of the level of deviation. However, the estimates can be sensitive to outliers.

Alternative categorizations of the work-hour mismatch variable are also used in the literature. Based on the idea that small discrepancies between actual and desired hours may have little impact on outcomes, some studies redefine the "no mismatch" category by raising the minimum deviation required to be classified as over- or under-employed. For instance, in addition to using a continuous measure, Miranti and Li (2020) define a mismatch only if the deviation exceeds ± 4 hours. Knaus and Otterbach (2019) apply two thresholds: one where mismatch is defined as a deviation beyond ± 2.5 hours, and another, for robustness checks, using ± 5 hours. Similarly, Otterbach et al. (2021), Otterbach et al. (2016), Bell et al. (2012), and De Moortel et al. (2018) apply a ± 4-hour threshold. Grund and Tilkes (2023) provide an even more detailed categorization for descriptive analysis, with groups defined as up to ± 4 hours, up to ± 8 hours, and more than 8 hours. These thresholds are not standardized measures but are instead guided by the distribution of the data and researcher judgment.

Table 2.2 also shows that most studies using deviation from desired working hours as an independent variable focus on a single country. These studies typically draw on either cross-sectional or longitudinal data. Because individual level longitudinal data are relatively scarce, longitudinal analyses tend to concentrate on Germany using the German Socio-Economic Panel (GSOEP), the United Kingdom using the British Household Panel Survey (BHPS), Australia using the Household, Income and Labour Dynamics in Australia (HILDA) Survey, and Canada using the Canadian Workplace and Employee Survey (WES).

For instance, Wunder and Heineck (2013), using GSOEP, find that under-employment has a stronger negative effect on life satisfaction in Germany than over-employment. They attribute this difference to both the monetary and non-monetary benefits that are forgone when individuals are under-employed. Using the same dataset, Pagan (2017) report that over-employment has a stronger negative effect on job satisfaction than under-employment in Germany; however, their analysis focuses on people with

disabilities, for whom the burden of additional undesired hours may be particularly pronounced. Grund and Tilkes (2023) also use GSOEP and find that work-hour mismatch reduces job satisfaction, highlighting the moderating role of job autonomy. Similarly drawing on GSOEP, De Moortel et al. (2018) show that over-employment has a stronger adverse effect on mental well-being than under-employment, and that the effect of under-employment disappears once income sufficiency is controlled for. A further study on Germany based on individual level panel data collected by the authors at six-month intervals, Frei and Grund (2022), finds that over-employment is more detrimental than under-employment for junior academics' job satisfaction, emphasizing the role of heavy workloads, administrative duties and intense competition.

Angrave and Charlwood (2015) use data from the BHPS to examine the effects of actual working hours and deviations from desired working hours on various subjective well-being indicators. Their findings suggest that it is not actual working hours themselves, but rather the deviation from preferred hours, that has a stronger association with well-being. A similar pattern is reported for Australia by Wooden et al. (2009), using data from the HILDA Survey. In a more recent study, Miranti and Li (2020) also utilize the HILDA Survey to analyze the relationship between work-hour mismatch and mental well-being, again finding a negative association. Under-employment is often linked to job insecurity and can be interpreted as a signal of labor underutilization and loss of efficiency. Using WES, Lee et al. (2015) show that congruence between desired and actual working hours is associated with more positive work outcomes in Canada.

Several studies that examine two countries simultaneously make use of available individual level panel data. Otterbach et al. (2021) use two longitudinal datasets, GSOEP and HILDA, to compare Australia's more individualized labor market with Germany, where working hours are more strongly regulated through collective agreements. They find that over-employment is negatively associated with mental health and that there are no significant cross-country differences in this respect. In an earlier version of the study, Otterbach et al. (2016) similarly report that the effect of over-employment does not differ across countries, but that the negative effect of under-employment is present only in Australia and not in Germany. Bell et al. (2012) utilize GSOEP and BHPS to analyze work-hour mismatch and health satisfaction and find a negative relationship in both Germany and the UK. Kugler and Wiencierz (2014) use GSOEP and HILDA to compare Germany and Australia and show that work-hour congruence is associated with higher job and life satisfaction in both countries, although in Germany the effect of over-employment appears weaker and under-employment emerges as a more serious issue than in Australia.

Table 2.2: Overview of Work-Hour Mismatch and Subjective Well-Being Literature

Study	Country/data	Measure of hours mismatch (Δ = actual − preferred)	Dependent Variable	Methodology	Results
(Wunder and Heineck, 2013)	GSOEP (1985-2011)	*Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0	Life satisfaction	Panel fixed effect	Under-employment has a more detrimental effect on life satisfaction than over-employment for both women and men. The effect of under-employment is particularly strong because of the loss of both monetary and non-monetary benefits that would be obtained from additional working hours. There is also a spillover effect between partners: when either partner is over-employed or under-employed, the life satisfaction of both partners decreases, especially in the case of under-employment.
(Kim et al., 2023)	6th KWCS (2020)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Risk of depression	Logistic regression	For Korean workers, being under/over-employed is associated with both short/long working hours. The study finds that long working hours negatively affect mental health, although this relationship weakens once control variables are included. Regardless of actual working hours, the risk of depression increases when there is a mismatch between actual and preferred working hours.
(Bartoll and Ramos, 2020)	EWCS (2015)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Mental well-being	Multilevel linear regression	Mismatch between actual and desired working hours negatively affects mental well-being. To reduce this mismatch, employers should provide flexible working arrangements, and working time should also be addressed as a matter of collective bargaining.
(Pagan, 2017)	GSOEP (1985-2011)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Job satisfaction	Probit Adapted OLS	Over-employment is more harmful than under-employment for both genders. The effect of over-employment becomes more severe for women with disabilities, whereas the negative effect of under-employment does not vary by disability status. To reduce working-time mismatch, governments, employers and trade unions should work together to establish flexible working arrangements.
(Zhang et al., 2023)	Survey data collected by authors from 37 countries (2015-2017) (cross-sectional)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Life evaluation	Sorted partial effect method	In relatively poor countries, the negative effect of work-hour mismatch appears to be more tolerable than in richer countries. Over-employment is found to be relatively high in Venezuela, Brazil, Türkiye and Australia, whereas under-employment is more prevalent in Germany, Romania, Poland, Chile and Sri Lanka. Governments should develop mechanisms to address work-hour mismatch, for example by enforcing maximum working hours and promoting regulations that limit excessive overtime.
(Ling et al., 2025)	UK Working Lives Survey (2019-2022) EWCS (2010 & 2015)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Subjective well-being	Decomposition analysis	Over-employment has a stronger negative impact on well-being than under-employment. The negative effect of work-hour mismatch is partly explained by low job quality. These adverse effects are heterogeneous across welfare state regimes. Eastern European countries appear to be affected the most, possibly due to weaker welfare provisions and lower levels of worker protection. By contrast, the effect of work-hour mismatch is found to be weaker in inclusive regimes with more comprehensive welfare provision. In market-oriented regimes, under-employment is not significantly associated with well-being, and the effect of over-employment is relatively small, which is attributed to greater labor-market flexibility and easier adjustment of working hours.
(Kim et al., 2021)	5th KWCS (2017)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0	Depression	Logistic regression	Work-hour mismatch is associated with higher levels of depression. As the discrepancy between actual and desired working hours increases, so does depression. The effect of under-employment is stronger than that of over-employment. Policies should aim to reduce work-hour mismatches as well as the total number of hours worked.

Table 2.2 (continued)

Study	Country/data	Measure of mismatch (Δ = actual − preferred)	Dependent Variable	Methodology	Results
(Bell and Blanchflower, 2019)	UK Annual Population Surveys (2013-2018) UK Labour Force Surveys (1997-2018)	*Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0	Happiness, life satisfaction, worthwhileness, anxiety	OLS	As the gap between actual and desired working hours increases, individuals' subjective well-being declines. Under-employment is associated with higher levels of unhappiness and anxiety. The number of hours lost due to under-employment is comparable to that lost to unemployment in the UK. High levels of under-employment are highlighted as one of the reasons for weak wage growth. Over the period in which real wages decrease, subjective well-being also falls, and those who are under-employed are affected more strongly than the unemployed or those who are out of the labor force.
(Sturman and Walsh, 2014)	US survey data collected by authors (2007)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0 *Includes 'degree of misfit' variable*	Life satisfaction, work-life balance, job stress, turnover intent	Polynomial regression	Work-hour congruence is a stronger predictor of outcomes than the number of hours worked. A mismatch in working hours is negatively associated with key employee attitudes. Being under-employed is associated with lower life satisfaction and higher turnover intention, whereas being over-employed mainly harms work-life balance. Reducing mismatch is beneficial for both employers and employees; therefore, although it may not be possible to eliminate mismatch completely, employers should consider within-organization policies to mitigate it.
(Wooden et al., 2009)	HILDA-longitudinal (2001-2005)	*Categorical* Under-employed: fewer than preferred Over-employed: more than preferred No mismatch: equal	Job satisfaction, life satisfaction	OLS	Unlike traditional labor supply models suggest, subjective well-being indicators are not associated with the number of hours worked. Being under-employed is related to relatively short working hours and being over-employed is associated with long working hours, but rather than the actual number of working hours, work-hour congruence affects subjective well-being. The effect of over-employment is stronger than that of under-employment. Policymakers should encourage employers to provide flexible working arrangements in accordance with the organizational structure.
(Angrave and Charlwood, 2015)	BHPS (1991-2008)	*Categorical* Under-employed: fewer than preferred Over-employed: more than preferred No mismatch: equal	Job, life satisfaction, psychological well-being	OLS	Although the risk of over-employment increases with longer working hours, it is not the number of hours worked but the mismatch that leads to a deterioration in subjective well-being indicators. The effect of over-employment is stronger than that of under-employment. Based on adaptation theory, it was hypothesised, and partly confirmed, that mismatch can be resolved over time. However, when mismatches, especially over-employment, are not resolved within two years, the negative effect on subjective well-being persists. Given that over-employment is associated with long hours, a restriction on maximum working hours may be warranted.
(Schalembier et al., 2019)	Belgium (cross-sectional) Survey data collected by authors (2015-2016)	*Categorical* Under-employed: fewer than preferred Over-employed: more than preferred No mismatch: equal	Work-hour mismatch	Binary logistic regression	Under-employment and over-employment have distinct determinants. Preferences for fewer hours are associated with poor work-life balance, while preferences for more hours seem driven primarily by relative social comparison rather than absolute income. People are more willing to reduce their hours when others do so as well. Hence, improving well-being may require working-time rules set at the state level rather than relying solely on intra-organizational flexibility. State-level policies should also account for potential reductions in tax revenue when working hours are reduced.
(Miranti and Li, 2020)	HILDA-longitudinal (2001-2016)	*Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0 *Robustness: categorical no mismatch: ±4h*	Mental health	Panel fixed effect	Focusing on mature workers aged 45-64, work-hour mismatch is associated with poorer mental health. For women, under-employment has a larger adverse effect than over-employment, and women experience greater harm from under-employment than men. This pattern likely reflects resolution dynamics: under-employed men are more likely to correct the mismatch over time, whereas under-employed women are less likely to do so. Accordingly, expanding flexible work options should be a policy priority.

Table 2.2 (continued)

Study	Country/data	Measure of mismatch (Δ = actual − preferred)	Dependent Variable	Methodology	Results
(Başlevent and Kirmanoğlu, 2014)	ESS (2010)	*Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0	Life satisfaction	Ordered logistic multilevel	Work-hour mismatch negatively affects well-being. The results are heterogeneous across countries. In countries with higher employment rates, life satisfaction is higher regardless of the gap between actual and desired hours. In countries with higher unemployment, being employed has a stronger positive impact on life satisfaction, likely due to concerns about job security. Thus, where unemployment is high, simply having a job contributes to life satisfaction irrespective of any hours mismatch. Additionally, the study finds no difference in the effect of work-hour mismatch between women and men, suggesting that gender differences are already captured by the mismatch itself.
(Grund and Tilkes, 2023)	GSOEP (2003-2018)	Descriptive: ±4h, ±8h, >±8h Empirical: *Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0	Job satisfaction	Panel fixed effectl	Work-hour mismatch negatively affects both work autonomy and job satisfaction. In addition to this direct effect, work autonomy moderates the negative relationship between mismatch and job satisfaction, with a stronger moderating effect for women.
(Otterbach et al., 2021)	GSOEP (2002-2012) HILDA (2001-2013)	Continuous + categorical (±4h) measures	Mental health	Panel fixed effect	Drawing on the Varieties of Capitalism literature, it was hypothesized that the system of collective regulation of working time in Germany would be more effective in limiting the incidence of over-employment than the more individualized system in Australia, resulting in a lower prevalence of working-time-related mental ill health. However, the results do not support this hypothesis. Over-employment is similarly common in both countries and is associated with lower levels of mental health in each.
(Otterbach et al., 2016)	GSOEP (2002-2012) HILDA (2001-2013)	*Categorical + Continuous* Under-employed < 0 Matched = 0 Over-employed > 0 *Robustness: (categorical): ±4h*	Mental health	Panel fixed effect	Comparing two countries, this study shows that it is not the actual number of hours worked but the mismatch that affects psychological well-being. Psychological well-being is negatively affected by over-employment in both Germany and Australia, with very similar magnitudes. By contrast, under-employment is significant only in Australia, not in Germany. This difference partly attributed to labor market and institutional differences.
(De Moortel et al., 2017)	ESS (2005,2010)	Standard/voluntary/involuntary short/long hours categories	Mental well-being	Multilevel model	Involuntary long working hours are associated with worsening mental health, and gender differences exist. Men who involuntarily work long hours tend to have poorer mental health, whereas for women, both voluntary and involuntary long hours are linked to poor mental health, possibly due to family responsibilities. Macroeconomic conditions also play a role. Workers with involuntarily short working hours are not affected by worsening macroeconomic conditions, possibly because these jobs already have low prospects and workers in them do not expect further downward mobility. For involuntary working hours, males and females differ: women working involuntarily long hours are negatively affected by deteriorating macroeconomic conditions, whereas men are not.
(Frei and Grund, 2022)	Germany, Longitudinal survey data (2014-2018, six-month intervals)	*Continuous* Under-employed (in hours) < 0 Over-employed (in hours) > 0	Job satisfaction	OLS	Focusing on junior academics, the study finds that over-employment has more detrimental effects on job satisfaction. Despite relatively high levels of autonomy, the incidence of over-employment is high in academia, largely due to heavy workloads, administrative duties and intense competition, which in turn negatively affect job satisfaction.

Table 2.2 (continued)

Study	Country/data	Measure of mismatch (Δ = actual − preferred)	Dependent Variable	Methodology	Results
(Bell et al., 2012)	GSOEP (1992-2008) BHPS (1991-2007)	GSOEP:*Categorical* Under-employed < -4, Matched = ±4, Over-employed > 4 BHPS: *Categorical* Under-employed: fewer than preferred Over-employed: more than preferred No mismatch: equal	Health satisfaction Self assessed health	Fixed-effects ordered logit	Focusing on two countries,Germany and Britain,the study found that work-hour mismatches are negatively associated with health. This relationship is particularly strong in cases of over-employment, even when the total working hours are relatively low. Work-hour mismatch affects not only health but also absenteeism, as well as job and life satisfaction. Especially in aging societies like Germany, maintaining good health is essential for a sustainable workforce. Therefore, strategies should prioritize resolving work-hour mismatches.
(De Moortel et al., 2018)	GSOEP (2006 and 2008)	*Categorical* Under-employed < 0 Matched = 0 Over-employed > 0 *Robustness: categorical: ±4h*	Mentall well-being	One-way ANOVA and OLS	Using longitudinal data, the study shows that over-employment has a negative effect on mental well-being after two years, whereas under-employment is not significantly related to mental well-being once income sufficiency is controlled for, highlighting the importance of income sufficiency. It also examines job rewards (salary, job security, career prospects, and relationships with co-workers and supervisors) but finds no significant moderating effect on the link between work-hour mismatch and mental well-being.
(Kugler and Wiencierz, 2014)	GSOEP (2001-2012) HILDA (2001-2012)	*Continuous* Under-employed < 0 Matched = 0 Over-employed > 0	Life satisfaction Job satisfaction	Semi-parametric regressions	Comparing Germany and Australia, the study shows that the highest level of subjective well-being is achieved when actual and preferred hours coincide. Under-employment is found to be a greater problem in Germany than in Australia, and German men appear largely unaffected by over-employment, suggesting limited utility gains from adjusting their hours. In Australia, the negative effect of under-employment becomes pronounced once the mismatch exceeds 10 hours. The authors argue that reducing work-hour mismatches would benefit employers through more productive, healthier and more committed workers,and employees, by improving work-life balance; they therefore recommend more flexible working-time arrangements.
(Lee et al., 2015)	WES-longitudinal (1999-2005)	*Continuous* Under-employed < 0 Over-employed > 0	Job satisfaction Paid abseenteism	OLS	Focusing on Canada, this study finds that congruence between desired and actual working hours is associated with more positive work attitudes and behaviours. The analysis emphasizes the importance of discrepancy theory, which stresses the match between preferences and outcomes, and social exchange theory, which highlights perceived fairness between what workers give to the firm and what they receive in return, in explaining the relationship between work-hour mismatch and work-related attitudes and behaviours. The results indicate that workers who want more hours and are able to obtain them report higher job satisfaction, whereas a similar positive effect is not observed for those who want fewer hours and receive fewer; in this latter group, the adjustment is instead linked to absenteeism rather than job satisfaction.

Studies that examine work-hour mismatch and subjective well-being indicators also make use of cross-sectional data for single countries. Kim et al. (2021) analyze data from the 6th Korean Working Conditions Survey (KWCS) and find that work-hour mismatch is associated with a higher risk of depression, regardless of actual hours worked. Using the 5th KWCS, Kim et al. (2023) report similar results and additionally show that the negative effect of under-employment on depression is stronger than that of over-employment. Sturman and Walsh (2014) conduct a survey in the United States and find that work-hour mismatch is negatively associated with employee attitudes, including life satisfaction, work-life balance, job stress and turnover intention. Using survey data for Belgium, Schalembier et al. (2019) show that the determinants of under-employment and over-employment differ and argue that, in order to enhance well-being, policy-makers may need to play a more active role, for example, by setting limits on working time, rather than relying solely on firms' decisions.

Although less common than single-country analyses, a number of studies in the work-hour mismatch literature adopt a cross-country perspective. These contributions are generally based on the premise that country-specific factors influence both the prevalence of work-hour mismatch and its relationship with job satisfaction and other well-being outcomes.

Otterbach (2010) provide empirical evidence on the importance of country-level variation. Although the work-hour mismatch question in the dataset captures whether individuals would prefer to work longer, shorter, or the same number of hours rather than providing an exact deviation, the conceptual approach is consistent with the broader literature. Using pooled cross-sectional data from the International Social Survey Programme (ISSP), Otterbach (2010) derive a mismatch variable at the individual level and aggregate it to the country level. This proportion-based measure is then combined with macroeconomic indicators. The results show that work-hour mismatch is significantly associated with country-level factors such as the unemployment rate, GDP per capita, average weekly working hours, and income inequality. For instance, in countries with high unemployment, individuals are more likely to report a preference for working longer hours. Workers in Scandinavian countries, on the other hand, report higher satisfaction with their working hours. One possible explanation is that these countries have adopted strong redistributive policies and work-life balance measures, which may reduce the incentive to work longer hours, as additional income may be offset by taxation and social transfers.

Motivated by the findings of Otterbach (2010), Başlevent and Kirmanoğlu (2014) examine the effect of deviations from desired working hours on life satisfaction using data from the 2010 wave of the European Social Survey (ESS). They merge individual level data with country-level macroeconomic indicators,

specifically, GDP per capita and the unemployment rate. Their results show that work-hour mismatch has a negative effect on life satisfaction overall. Among the macroeconomic variables, GDP per capita is significantly associated with life satisfaction, whereas the unemployment rate is not statistically significant. However, they also find that in countries with higher unemployment rates, the negative effect of work-hour mismatch on life satisfaction is smaller. This suggests a contextual buffering effect, potentially due to individuals adjusting their expectations in more constrained labor markets.

Another study motivated by the results of Otterbach (2010) is conducted by De Moortel et al. (2017), where the independent variable remains work-hour mismatch and the dependent variable is mental well-being. Individual level data are drawn from the ESS for the years 2005 and 2010 and merged with macroeconomic indicators, namely the unemployment rate and GDP growth. The authors construct five categories of work-hour mismatch based on the degree and voluntariness of the deviation from preferred working hours. This categorization distinguishes between voluntary and involuntary short or long working hours. Their findings indicate that both involuntary long and short working hours are negatively associated with mental health outcomes. The study also uncovers significant gender differences. For men, involuntary working hours, regardless of whether they are long or short, are associated with poorer mental well-being. For women, negative associations are found not only for involuntary working hours (both long and short), but also for voluntary long hours. In terms of macroeconomic context, gender differences persist: women's mental well-being is more adversely affected by worsening economic conditions, suggesting greater vulnerability to economic hardship.

Bartoll and Ramos (2020) use data from the 2015 European Working Conditions Survey (EWCS) to examine the association between deviations from preferred working hours and mental well-being. They also incorporate macro-level variables by merging individual level EWCS data with country-level indicators. Their findings show that both types of mismatch, under-employment and over-employment, negatively affect mental well-being, with the effect of over-employment being stronger. Among the macro-level variables, only the unemployment rate is found to have a significant association, and interestingly, it is positively related to mental well-being. The authors explain this counterintuitive finding by suggesting that in contexts with higher unemployment, the mere fact of being employed may contribute positively to mental well-being due to the heightened threat of job loss. Other macroeconomic variables are not found to be statistically significant.

Zhang et al. (2023) also conduct a cross-country analysis to examine the effect of work-hour mismatch on individuals' life evaluations. The survey used in the study covers 37 countries across diverse regions,

including Western Europe and Scandinavia, Eastern Europe, North America, Latin America, East Asia, Southeast Asia, Central and South Asia, the Middle East and Western Asia, Australia, and Sub-Saharan Africa. The study finds that the effects of work-hour mismatch are heterogeneous. Younger individuals are most affected by over-employment, while under-employment tends to have a stronger impact on older individuals. Regarding country-level differences, the authors find that individuals working in lower-income countries are more tolerant of work-hour mismatch compared to those in wealthier countries. The negative effects of over-employment are found to be strongest in Türkiye, Germany, Romania, and Poland.

The welfare state framework can also be used to observe country heterogeneity. This framework allows for testing whether welfare provision has the capacity to buffer the negative effect of work-hour mismatch on subjective well-being. Using UK Working Lives Survey (UKWL) and EWCS data, Ling et al. (2025) find that the negative effect of over-employment is greater than that of under-employment on subjective well-being. These adverse effects are heterogeneous and vary across different institutional contexts. They are more pronounced in Eastern European countries, where welfare provisions are far from universal and worker protections are limited. In contrast, in countries with more universal welfare systems, equitable labor markets, and stronger worker protections, the negative impact of over-employment is weaker.

2.1.1.2. Age

The association between job satisfaction and age is generally positive or U-shaped. Age may affect job satisfaction both directly and indirectly. The indirect effects may arise through improvements in working conditions with age, as well as through changes in expectations or aspirations. A meta-analysis by Ng and Feldman (2010) concludes that job satisfaction and age are positively related due to certain advantages that come with age, such as moving into jobs that are better suited to one's preferences or experiencing a softening of emotions over time.

In one of the early studies focusing on managers, White and Spector (1987) found that job satisfaction and age are not directly related. Instead, age has an indirect effect on job satisfaction through locus of control, the discrepancy between work expectations and realizations, salary, and tenure.

The association between age and job satisfaction may vary across countries, as it is also influenced by differences in labor market structures. Using cross-sectional British data and noting that the results might not hold in other countries, Clark et al. (1996) found that the association is U-shaped. Job satisfaction decreases until around ages 31-36 (even after including up to 80 control variables) and then begins to rise again until retirement. This pattern was interpreted as reflecting personal circumstances that are not

directly job-related, as well as changes in expectations and aspirations over the life course. For instance, young workers may report high satisfaction because high youth unemployment makes having a job itself a source of relative advantage. However, as they age and gain experience in the labor market, their reference group shifts toward peers with better jobs, leading to lower satisfaction. The subsequent increase in job satisfaction at older ages may occur because workers recognize that their careers are largely established and that changing jobs is less feasible. Another possible explanation is that older workers place less emphasis on social comparison.

2.1.1.3. Gender

The association between gender and job satisfaction remains inconclusive. While Andrade et al. (2019) and Sousa-Poza and Sousa-Poza (2000) found no significant difference between men and women, many other studies have reported that women tend to experience higher job satisfaction despite generally worse working conditions (Sloane and Williams, 2000; Zou, 2015; Clark, 1997; Hakim, 1991). This counterintuitive finding has been described in the literature as the gender-job satisfaction paradox.

Hakim (1991) conceptualized this paradox with the notion of "grateful slaves." She argued that the higher job satisfaction of women stems from heterogeneity within the female labor force. One group of women shares similar levels of work commitment as men, while another group participates in the labor market primarily to supplement household income. Women in this latter group often identify themselves as homemakers and caregivers, and their paid work, frequently part-time or low-quality jobs, is viewed as secondary to their family responsibilities. The first group's job satisfaction resembles that of men, whereas the second group reports higher satisfaction, possibly due to lower work-related expectations shaped by traditional gender roles.

Clark (1997) emphasized the role of expectation differences. He suggested that the historically worse jobs held by women led them to form lower expectations, which in turn resulted in higher reported job satisfaction. Over time, as women's labor market positions improve, their expectations may rise, and the paradox could diminish or disappear. This transitional argument finds support in Andrade et al. (2019), who observed no gender difference in job satisfaction and interpreted it as a sign that male and female expectations are becoming similar. However, attributing this entirely to labor market transition may be misleading. The cross-country study by Sousa-Poza and Sousa-Poza (2000) also found no significant gender difference, suggesting instead that the paradox may be specific to the UK and the US, indicating that it is largely an Anglo-Saxon phenomenon. Indeed, the study by Andrade et al. (2019), which attributes the disappearance of the paradox to the convergence of expectations between men and women, is itself a

cross-country analysis rather than one limited to the UK or the US.

The paradox was also examined at the welfare-state level, and it was found that in Anglo-Saxon and southern European countries, where work-life balance is not strongly supported by the state and women's expectations are lower, the paradox exists. In contrast, the paradox does not appear in Nordic countries, where gender equality is promoted and low-cost childcare is provided by the state. This pattern suggests that policymakers should focus on improving equality and opportunities and on enhancing work-life balance, rather than interpreting women's job satisfaction merely as the result of lowered expectations (Nappo and Lubrano Lavadera, 2025).

2.1.1.4. Education

Individuals give up the opportunity to gain labor-market experience and instead spend time and money on education in the hope of attaining higher wealth in the future. Yet the effects of education are not limited to monetary gains. Educated people may enjoy their work more, hold more prestigious jobs, and achieve a sense of self-accomplishment. In addition, the likelihood of unemployment decreases with education (Oreopoulos and Salvanes, 2011).

Empirically, the association between education and job satisfaction is generally positive. For instance, Vila and García-Mora (2005) find a positive relationship between education and job satisfaction. Similarly, Đukić et al. (2018) report comparable results for Serbia, where job satisfaction increases with education, except that the highest level of education is not associated with job satisfaction. This finding is explained by the relatively high unemployment rate in Serbia, which leads highly educated individuals to work in positions below their qualifications; that is, they become overeducated. Moreover, the determinants of job satisfaction differ across education levels: for lower-educated individuals, pay has the largest effect, whereas for higher education levels, communication with coworkers and superiors, along with fringe benefits, become more important.

The strength of this positive relationship may also vary across sectors due to differences in pay and working conditions. Using cross-country evidence, Pita and Torregrosa (2023) find that higher education is associated with higher job satisfaction in the private sector but not in the public sector, partly because education is linked to higher satisfaction with pay and working conditions only in the private sector. In the public sector, these gains are weaker and less systematic: pay satisfaction is non-linear across education groups and satisfaction with working conditions varies little by education level.

Another education-related issue concerns the match between workers' qualifications and job requirements.

A large body of research documents a job satisfaction penalty for over-education, commonly linked to mechanisms such as relative deprivation, weaker career expectations, and lower returns to skills when jobs do not fully utilize workers' qualifications (Khalil et al., 2023; Damelang and Ruf, 2023). Evidence further indicates that the consequences of over-education depend on whether mismatch is temporary or persistent. Damelang and Ruf (2023) emphasize that persistence is central for understanding the magnitude of mismatch related disadvantages and highlight that over-education is associated with adverse outcomes, including lower job satisfaction.

2.1.1.5. Household Size

The relationship between household size and job satisfaction is not a simple linear one. Household size can influence job satisfaction indirectly through several mechanisms such as work-family conflict, intra-family conflict, and financial pressures (Chen and Cheng, 2023; Pohlig et al., 2022).

Variables related to the family domain can therefore play a significant role in shaping job satisfaction (Ford et al., 2007). Family demands may lead to emotional exhaustion and work-family conflict, while family support can provide emotional stability that enhances satisfaction. Thus, the household context can serve as both a source of satisfaction and dissatisfaction.

Although studies that directly examine the relationship between household size and job satisfaction are limited, household size is frequently included in empirical specifications as a control variable. Controlling for household size helps ensure that estimated effects of work-related or personal characteristics are not biased by differences in household size. For example, household size has been used as a control variable by Zhou et al. (2022), Kesavayuth et al. (2022), and Clark et al. (1996).

2.1.1.6. Urbanization

Spatial agglomeration increases production and consumption opportunities; however, in developed countries, once a certain level of urbanization is reached, it no longer raises subjective well-being and may even reduce it. This "urban paradox" is partly driven by disamenities associated with urbanization, such as higher living costs, less affordable housing, longer commutes, and congestion (Burger et al., 2020; Morrison, 2021).

Proximity to cities is generally associated with lower subjective well-being, but the negative effects are not symmetric across groups. Highly skilled workers may obtain better job opportunities and higher salaries that compensate for urban disadvantages, whereas socially disadvantaged groups often experience the burdens of city life more than its benefits, on average, better off in rural areas (Lenzi and Perucca, 2022).

A similar relationship holds for job satisfaction. Finnemann et al. (2024) show that all dimensions of subjective well-being, including job satisfaction, are lower in urban than in non-urban areas in the UK. They also document greater dispersion in job satisfaction within urban areas, suggesting higher inequality in work-related well-being.

2.1.1.7. Occupation

According to the definition of the International Labour Organization (ILO), occupation refers to the kind of work performed in a job. The concept of occupation is defined as a "set of jobs whose main tasks and duties are characterized by a high degree of similarity" (ILO, 2012). There are different categorizations of occupations depending on the required skill level, such as managers, professionals, or elementary occupations.[1]

Job satisfaction varies by occupation type, as higher occupational status is generally associated with greater job quality. In general, higher-skill, higher-status jobs tend to yield higher job satisfaction than lower-skill jobs (Pichler and Wallace, 2009; Arjona Perez et al., 2010). Using two different European datasets, Arjona Perez et al. (2010) found that individuals in higher-skill occupations report greater job satisfaction. Although this relationship weakens when individual and work-related control variables such as contract type, hours worked, job security, level of responsibility, autonomy, and participation in the decision-making process, are included, it does not completely disappear.

Higher-level occupations tend to yield greater job satisfaction because they are associated with better job quality in terms of pay, promotion opportunities, autonomy, and the perceived meaningfulness of work. Moreover, work-life balance also appears to be better among professionals compared with lower-skilled workers (Andrade and Westover, 2020).

2.1.1.8. Sector of Working (Public vs. Private Sector)

Despite well-known disadvantages relative to the public sector such as lower pay, weaker organizational practices, less autonomy, and more limited participation in decision-making processes, public sector workers often report higher job satisfaction. Higher job satisfaction in the public sector is commonly attributed to permanent contracts, better work-life balance, employment stability, and more generous holiday opportunities (Sánchez-Sánchez and Fernández Puente, 2021; Andrade and Westover, 2023).

[1] The International Standard Classification of Occupations (ISCO-08) is the currently used framework, which groups occupations into the following major categories: Managers; Professionals; Technicians and Associate Professionals; Clerical Support Workers; Service and Sales Workers; Skilled Agricultural, Forestry and Fishery Workers; Craft and Related Trades Workers; Plant and Machine Operators and Assemblers; Elementary Occupations; and Armed Forces Occupations (Ganzeboom, 2010).

This public sector premium in job satisfaction may vary. For instance, by education a different pattern emerges. Individuals with higher education tend to report lower satisfaction with working conditions in the public sector, possibly due to lower pay satisfaction and better outside options in the private sector, whereas those with lower education report higher satisfaction in the public sector (Pita and Torregrosa, 2023).

Another potential moderator of the relationship between public sector employment and job satisfaction is the structure of the labor market, particularly the degree of precarity. Using the EWCS (2015) data, there is evidence that, except in Belgium, Greece, Finland, France, and Cyprus,the public-sector satisfaction premium tends to be larger in countries where workers perceive a higher likelihood of job loss; when precarity is more salient, public-sector stability may carry greater value (Fernandez Puente and Sánchez-Sánchez, 2021). Although Fernandez Puente and Sánchez-Sánchez (2021) is relatively recent, arguments in The Precariat: The New Dangerous Class similarly suggest that some public sector advantages (e.g., stability and work-life balance) may have eroded,especially after the 2008 crisis, as labor market flexibility has diffused into the public sector (Standing, 2022). Taken together, and despite indications of erosion, recent empirical work generally suggests that job satisfaction remains higher, on average, in the public sector.

2.1.1.9. Contract Type

Contract type is an important correlate of job satisfaction. Empirical research finds that workers on permanent contracts report higher job satisfaction than those on temporary contracts. Evidence from the European Working Conditions Survey (EWCS) data shows that temporary workers are less satisfied with their jobs. Temporary contracts may also affect satisfaction indirectly, as they are often associated with poorer working conditions, weaker career prospects, and lower pay (Aleksynska, 2018). The negative association can be mitigated when aspects of job quality improve, such as participation in the decision-making process (Goñi-Legaz and Ollo-López, 2017), or when temporary employment is voluntary and expectations are met (Canzio et al., 2023).

The literature generally emphasizes that permanent contracts are associated with better jobs, which helps explain the observed satisfaction gap. However, it is also noted that involuntary temporary employment is typically associated with lower satisfaction, whereas voluntary temporary work does not decrease job satisfaction. These relationships are heterogeneous across groups and welfare regimes. In Scandinavian countries with more generous social protection, the gap between involuntary temporary and permanent employment is often small or statistically insignificant, explained by the idea that welfare institutions

can buffer job-insecurity penalties. In western and southern Europe, differences tend to be present but modest. In Eastern European settings, the gap is larger. This likely reflects weaker social protection and historical legacies from the socialist era, when employment was expected to be guaranteed. As a result of past experiences, job insecurity may have a stronger impact on reported satisfaction (Canzio et al., 2023). Consistent with this, Aleksynska (2018) show that the association between temporary work and poorer working conditions is stronger in transition economies than in the rest of Europe, possibly due to differences in labor-market regulation, enforcement, and bargaining power.

The effect of temporary contracts on job satisfaction is not always negative. Psychological contract theory suggests a mechanism for neutral or even positive associations in some contexts. As obligations in temporary jobs are typically more transactional and narrowly defined, negative workplace experiences may generate a weaker sense of unmet expectations, reducing their impact on satisfaction (Guest et al., 2010).

2.1.1.10. Commuting

Commuting is an unavoidable part of working life for most employees, except those who work entirely from home, and it has clear implications for individual well-being. Time spent traveling to and from work reduces the time available for leisure and family responsibilities, creates out-of-pocket costs, exposes individuals to congestion and pollution, and is often marked by delays and unpredictability. Taken together, these factors tend to lower subjective well-being (Chatterjee et al., 2020; Stutzer and Frey, 2008). Overall, the literature points to a negative association between commuting and subjective well-being, although the evidence is not entirely consistent. For instance, Zijlstra and Verhetsel (2021) find a significant but small effect of commuting on well-being, whereas Morris et al. (2025) report no relationship.

From an economic perspective, commuting is usually treated as a choice made by a rational individual. If commuting entails physical or psychological costs, these should be compensated by more intrinsically rewarding work, higher pay, or the additional utility gained from living in a more pleasant residential environment (Stutzer and Frey, 2008). In reality, however, people often choose jobs primarily on the basis of income, career prospects and social status, and only fully realize the burden of commuting after they start working (Liu and Ma, 2024). Empirical evidence also questions the idea that workers can easily "trade off" commuting costs against other benefits. Using GSOEP data, Stutzer and Frey (2008) find a negative effect of commuting on subjective well-being and argue that individuals are not able to fully compensate through higher wages or better housing. Similarly, Liu and Ma (2024), drawing on Chinese longitudinal data, show that commuting is negatively associated with job satisfaction but positively associated with

wages, suggesting that higher income does not, in practice, offset commuting costs. They also find that commuting does not reduce hours worked, implying that the cost of commuting is mainly absorbed by individuals through poorer work-family balance.

A literature review by Chatterjee et al. (2020) concludes that there is still no conclusive evidence regarding the effect of commuting on satisfaction. They highlight that most of the studies they review rely on cross-sectional data, which means that the observed negative associations cannot be interpreted as causal. Over time, many individuals try to adapt to commuting and soften its negative effects, for example by changing their mode of transport or moving closer to their workplace. Nonetheless, as noted by Stutzer and Frey (2008) and Liu and Ma (2024), these compensatory strategies are not always feasible or sufficient. This helps to explain why commuting continues to exert a detrimental-though often modest and context-dependent-effect on both job satisfaction and overall well-being.

The impact of commuting on job satisfaction is not uniform across workers. Existing studies suggest that the negative effect tends to be stronger for women, whereas younger workers (aged 16-29) and low-income workers appear to be less affected by commuting time. As might be expected, working from home tends to be associated with the highest levels of job satisfaction (Clark et al., 2020).

2.1.1.11. Wage and Income Sufficiency

Neoclassical view suggests that an individual's utility is positively associated with wage level and negatively associated with working hours, as people favor income and dislike effort. However, in reality this situation is more complex. Rather than a simple direct effect of wages, relative wages, for instance, become important (Brown et al., 2005). Also, higher wages can be associated with risky and hazardous working conditions (Lydon and Chevalier, 2002).

A comprehensive meta-analysis covering 458 studies has concluded that the association between wages and job satisfaction is quite modest. This modest relationship is explained by adaptation-level theory, which suggests that an increase in wage level has a limited, temporary effect on satisfaction and that, after a while, satisfaction returns to its pre-increase level. This limited impact of wages on job satisfaction suggests that merely increasing wages will not, by itself, raise job satisfaction; other aspects of jobs should be considered, such as relative pay and enhancements in both intrinsic and extrinsic working conditions (Judge et al., 2010).

Although earnings are closely related to job satisfaction, in the absence of a direct measure, using proxy variables such as income sufficiency or a household's ability to make ends meet is a valid approach,

as income sufficiency is positively associated with income and affects job satisfaction (Medgyesi and Zólyomi, 2016). The use of income sufficiency and/or household ability to make ends meet is common practice in the subjective well-being literature. For instance, using income sufficiency Steckermeier (2021) examine life satisfaction; Goswami and Pollock (2016) study mental health; Millán et al. (2011), Millán et al. (2013), and Pohlig et al. (2022) analyze job satisfaction; Edgell et al. (2012) investigate work-life balance; and Bech-Wysocka et al. (2022) assess discrepancies between actual and desired working conditions.

Using a household's ability to make ends meet or income sufficiency at the household level may even be superior to using wages alone as a determinant of job satisfaction. Considering income sufficiency at the household level is useful, as sufficient income may lift a household out of poverty even when a job is low paid. In that case, a household member's low wage can be balanced by other sources of income within the household. In that case, if the non-monetary aspects of jobs are favorable, job satisfaction may not be adversely affected by low wages (Pohlig et al., 2022).

Based on the existing literature, it would not be misleading to say that as households' ability to make ends meet increases, so does job satisfaction. This positive effect is observed for both paid employees and self-employed individuals across two dimensions of satisfaction, namely, satisfaction with the type of work and satisfaction with job security. The proposed mechanism is that a better financial position is associated with a more favorable evaluation of one's current job, allowing employees to worry less about job security (as they can absorb financial losses) and enabling the self-employed to be more selective in their work content and to feel more secure about their businesses' survival and performance (Millán et al., 2011; Millán et al., 2013).

2.1.1.12. Work-Life Balance

Work-life balance is defined as a subjective evaluation grounded in individuals' values and in their appraisal of how effective they are in their work and non-work domains. Balance here does not necessarily imply equality between domains: for a career-oriented individual, feeling in balance may primarily depend on being effective at work, whereas for a family oriented individual, the weight of family roles becomes more salient in their evaluation of work-life balance (Greenhaus and Allen, 2011).

Work-life balance is positively associated with subjective well-being indicators such as job and life satisfaction and mental well-being (Haar et al., 2014; Eurofound, 2018; Aruldoss et al., 2022; Mentus and Zafirović, 2023; Walga, 2018). Better work-life balance provides workers with sufficient recovery time from job-related demands, reducing burnout and mental strain and ultimately leading to higher work

engagement. In this context, work-life balance is not solely an individual responsibility; organizations can play a critical role in promoting it. Employers can foster a supportive work environment, offer flexibility in working hours when needed (Haar et al., 2014; Brough et al., 2020), and provide access to healthcare and childcare (Aruldoss et al., 2022). Even being able to take one or two hours off can contribute to improved work-life balance, particularly when such arrangements are embedded in a supportive working culture (Eurofound, 2018).

Despite its overall positive association with well-being, work-life balance is negatively affected by high levels of responsibility and work intensity, long working hours, limited flexibility in working time, family demands, low job autonomy, weak supervisory support, and limited participation in decision-making processes (Haar et al., 2019; Eurofound, 2018), as well as by insufficient household income (Mentus and Zafirović, 2023).

Work-life balance is also shaped by welfare-state provisions. In Nordic welfare states, work-life balance tends to be higher, whereas in southern European and central and eastern European countries it is generally lower. The lower levels of work-life balance in southern Europe are often attributed to the predominance of family-based rather than state-based social support (Björk-Fant et al., 2023; Lunau et al., 2014).

Work-life balance is a significant predictor of job satisfaction, yet the magnitude of this association is moderated by cultural and institutional differences. For instance, in individualistic cultures, where work-life balance is generally perceived as an individual achievement, high levels of balance are more strongly and positively associated with job satisfaction than in collectivistic cultures. In collectivistic contexts, the negative effects of poor work-life balance on job satisfaction may be partially buffered by stronger social and family support networks (Haar et al., 2014).

2.1.1.13. Health

The World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 1948). Health is widely regarded as one of the most important determinants of well-being in general (Eurofound, 2017) and of job satisfaction in particular. The literature generally points to a negative association between poor health and job satisfaction (Clark and Oswald, 1996; D’Addio et al., 2007; Medeni et al., 2025; Ahn and García, 2004). In addition to this direct link, health may also influence job satisfaction through the uncertainty it creates, especially for self-employed individuals and older workers (Sowan et al., 2025).

Building on this general relationship, chronic health problems may be especially salient for understanding

job satisfaction. Chronic health problems typically last over long periods of time, and the presence of such conditions can interfere with daily activities and make it more difficult to participate fully in social and economic life. People with chronic illnesses may also be more likely to work for lower wages in comparable jobs, face discrimination, and receive insufficient support in the workplace. They can experience additional obstacles in career development, higher job stress, and an increased risk of job loss (Siu et al., 2013; Raque et al., 2024). Discrimination in the workplace towards individuals with chronic illness has been identified as an important reason for lower job satisfaction (McGonagle et al., 2016).

Despite these difficulties, many individuals with chronic conditions continue to work and support themselves and their families. The negative impact of poor health on job satisfaction seems to be less pronounced when workers receive support from colleagues and supervisors, when the disease is relatively manageable, and when the chronic condition is not highly restrictive in everyday functioning (Siu et al., 2013).

As might be expected, older workers are more likely to report health problems. At the same time, some studies find a somewhat paradoxical pattern: in European countries where the share of older workers in employment is relatively high, average job satisfaction also tends to be high. This pattern suggests that work quality may play an important role in shaping the relationship between health and job satisfaction. Older workers with worse health may be partly protected when they are employed in higher-quality jobs with better working conditions (Pollak, 2012).

Overall, healthier workers tend to report higher job satisfaction, and several studies indicate that health remains an important determinant of job satisfaction even after controlling for job characteristics. However, it has also been noted that, due to the potential risk of reverse causality, the estimated coefficients might be overestimated (Ahn and García, 2004). At the same time, estimates of the effect of health on job satisfaction may be biased because health is not fully exogenous. Health problems can be generated or aggravated by the work itself: long working hours (Wong et al., 2019), poor working conditions (Nappo, 2019), and low-quality jobs (Pollak, 2012) may contribute to health problems that eventually lead to lower job satisfaction.

The literature also points to a bidirectional relationship between job satisfaction and health. While better health is associated with higher job satisfaction, higher job satisfaction may also contribute to better health outcomes (Fischer and Sousa-Poza, 2009). A meta-analysis of the association between job satisfaction and health reports that the correlation is substantial across different types of health outcomes and appears to be particularly strong for mental health problems such as burnout, anxiety, and depression (Faragher et al., 2005).

2.2. Welfare States

The aim of this chapter is to outline the basic logic of welfare states, their modern development, and their main classifications. In line with the focus of this study, the historical discussion will be limited to the period following World War II. Although the term welfare state was first popularized after 1945 (Briggs, 1961), the absence of formal welfare state policies before this period does not imply that support mechanisms for vulnerable groups were entirely lacking. Informal social assistance was traditionally provided through family networks, local communities, and occupational structures (Esping-Andersen, 1990; Castel, 2003). Before the institutionalization of welfare, such support was largely viewed as the responsibility of morally conscious individuals and local actors, including the church, rather than the state (Castel, 2003). The historical roots of social policy can therefore be traced back to the emergence of wage labor and the social construction of poverty. For more detailed accounts of this broader history, see Kuhnle and Sander (2010), Castel (2003), Polanyi (2001), and Thompson (1963).

Polanyi (2001) argues that social policy should be seen as a necessary precondition for a functioning economy, because economic systems need to remain embedded within the wider social and political institutions that sustain them. The industrial transformation made this particularly evident, as traditional forms of support gradually eroded under the pressures of modernization, urbanization, social mobility, and rising individualism. Markets were unable to provide adequate protection, since they supported only those who were able to sell their labor (Esping-Andersen, 1990). In contrast, Marshall (1950) emphasized that living a decent life should not depend solely on one's position in the labor market but should be recognized as a matter of citizenship. This perspective points to the need for the de-commodification of labor, a defining feature of modern welfare states and a topic that will be discussed in detail later (Esping-Andersen, 1990).

The term welfare state became widely used in Britain after 1945 and then spread internationally to describe different societies at different levels of development, often without a clear definition. A classic definition by Briggs (1961) characterizes the welfare state as a way in which politics and public administration shape and limit market forces. According to Briggs (1961), the welfare state has three aims. First, guaranteeing a minimum income for every citizen, regardless of their position in the labor market or ownership of property; second, reducing insecurity linked to sickness, old age, unemployment, and similar risks; and third, ensuring that key social services are available to all citizens as a matter of right rather than as goods bought on the market.

Another influential conceptualization is offered by Titmuss (2018) (originally published in 1958), who

defines the welfare state as a redistributive state in which universal services are provided as a right of citizenship, based on need rather than income or merit. He argues that welfare should be considered in terms of three pillars. Social welfare (referring to public programs, goods, and services), fiscal welfare (referring to subsidies and advantages delivered through the tax system), and occupational welfare (referring to employer-provided benefits). Titmuss (2018) suggests that focusing only on social welfare overlooks how fiscal and occupational welfare often disproportionately benefit middle and upper-income groups, reinforcing existing status divisions and potentially weakening broader aims of social integration and equality.

Marshall (1950) argued that social rights, such as the right to education, income security, and health-care, form an important part of citizenship alongside civil and political rights. This perspective can be considered one of the key elements that distinguishes modern welfare systems from older poor-relief arrangements, such as the Poor Law Amendment Act of 1834, where assistance was strongly conditional, often stigmatizing, and clearly separated recipients from the rest of the community. Over time, postwar welfare states increasingly presented social benefits as legitimate entitlements of citizens. In Britain, this shift was influenced by Lord Beveridge's plan for comprehensive social insurance and family allowances, which helped shape the post-1945 reconstruction of social policy and served as an important reference point for reforms in other European countries (Nullmeier and Kaufmann, 2021).

From an analytical point of view, Esping-Andersen (1990) argues that the welfare state is not only a tool for correcting inequalities produced by the market. It also plays an active role in shaping social relations and patterns of inequality, and in structuring class positions. In this modern sense, the term welfare state can be understood as referring to the set of institutions, programs, and regulations that make up a country's social policy system (Nullmeier and Kaufmann, 2021).

The rapid postwar expansion of these institutions is often described as the "Golden Age" of the welfare state. From the late 1940s to the mid-1970s, OECD countries experienced high growth in social spending, broader coverage of social programs, higher benefit levels, and reductions in poverty and inequality. This expansion period was supported by strong, industry-based economic growth, technological advantages over many other parts of the world, and favorable access to raw materials and overseas markets, reflecting the international power relations of the period. In addition, the Bretton Woods system, with fixed exchange rates and controls on capital movements, made it possible to combine an open world economy with high national wage levels and extensive social protection. Financing this expansion required reallocating public expenditure across different policy areas, at times crowding out other items such as defense spending. It

also relied on higher social contributions from employers and employees, increased taxation, and, in some cases, rising levels of public debt. Rising public debt led to debates about a possible "fiscal crisis" of the welfare state. At the same time, international shocks such as the oil crises of 1973-74 and 1979 imposed additional pressure on national economies. Together, these fiscal and economic strains are widely seen as contributing to the end of the Golden Age, the collapse of the Bretton Woods system, and the beginning of a period of welfare state retrenchment (Nullmeier and Kaufmann, 2021).

Although the postwar consensus in social policy weakened and many countries adopted neoliberal reforms such as privatization and deregulation from the 1970s onward, these changes should not be understood as the complete abolition of the welfare state. Most advanced welfare states retained key features of the social programs built during the Golden Age (Nullmeier and Kaufmann, 2021), and debates about the role and future of the welfare state gained renewed prominence after the 2008 financial crisis and, more recently, during the COVID-19 pandemic. In the industrial postwar era, social protection was mainly tied to stable, full-time employment through earnings-related social insurance. In today's world, labor markets have become more volatile and precarious, and individuals are more likely to face irregular and insecure careers. To provide a buffer against the risks associated with labor-market volatility and precarity, social protection needs not only to offer income security but also to promote work-life balance and regulate employment relations (Hemerijck and Ronchi, 2021).

2.2.1. Classification of European Welfare States

Before outlining the main features of European welfare states, it is useful to briefly consider why countries differ in their welfare provisions and why distinct welfare regimes have emerged. The development of welfare states has been far from uniform, and understanding this diversity provides important context for later discussions.

There is considerable cross-national variation in how welfare states have evolved. Countries differ in the timing of welfare state consolidation, in their policy goals, such as whether the degree of protection is minimal, generous, or focused on maintaining existing arrangements, and in their institutional designs. These institutional differences include how programs are financed, the types of benefits and administrative structures used, the public-private mix within the economy, and whether policy relies primarily on cash transfers or regulatory social measures. National trajectories also vary. For instance, welfare programs can be introduced from the top down, particularly in authoritarian monarchies, while in other cases they develop gradually through democratic processes. Such diversity reflects differences in state and nation building processes, political cultures such as trust in the state, the types of social divisions and organized

groups that exist in society, and the scale and nature of socioeconomic pressures. Yet even this wide set of factors does not fully account for the emergence and variety of welfare states (Béland et al., 2021).

Several theoretical perspectives attempt to explain why welfare states differ, though there is little consensus. One straightforward view is that welfare states emerge to address needs and risks that are not adequately covered by markets or family networks. From this perspective, welfare states fill the gap between what individuals need to live a decent life without being fully exposed to labor market risks and what labor markets or informal support systems are able to provide (Zutavern and Kohli, 2021).

A more structural explanation is offered by the industrialization perspective, which argues that the shift to industrial society created similar social risks across countries and should therefore have produced convergence in welfare arrangements. Empirical research, however, has not confirmed such convergence. Neo-Marxist theories extend this line of reasoning by focusing on the transition from agrarian economies to early competitive capitalism and later to advanced monopoly capitalism. These transformations generated new functional demands for state intervention and social policies (Skocpol and Amenta, 1986). Still, economic structure alone does not appear sufficient to explain the substantial cross-national variation in welfare states.

Political explanations add another important dimension. From a pluralist perspective, in an open democratic system, citizens affected by particular problems form interest groups, such as labor unions, employer associations, or professional organizations, to articulate their concerns. These groups lobby, protest, negotiate, and attempt to influence government decisions. Policy change is viewed as incremental, reflecting governments' responses to ongoing pressures from organized interests (Immergut, 2021).

A related but more critical interpretation comes from Marxist-functionalist perspectives. In this view, the state is understood as fulfilling a stabilizing role within capitalism. Welfare policies can therefore be interpreted in two ways: either as evidence that democratic politics can mitigate the inequalities inherent in capitalism, or as reforms that help legitimize and stabilize the capitalist system without altering its underlying power relations (Immergut, 2021).

Another influential explanation focuses on class based interests and class based politics, often described as the "democratic class struggle." Different social classes, such as workers, employers, and middle income groups, and the political parties representing them pursue distinct policy goals. The alliances and conflicts among these groups shape the generosity, universality, and institutional design of welfare systems. In countries where organized labor and left parties were strong, welfare states tended to expand more broadly, whereas in countries where conservative or employer interests were dominant, social policies

often developed in more modest and selective ways (Immergut, 2021).

Finally, state centered and institutional approaches emphasize that political institutions themselves play a decisive role in shaping welfare state trajectories. Constitutional arrangements, veto points, party systems, and administrative traditions affect how organized actors interact, how citizen preferences are expressed, and what states are capable of implementing. Because these institutional features evolve over time, their effects are historically conditioned, which makes the time dimension essential for understanding cross-national differences (Immergut, 2021).

Taken together, these perspectives suggest that the diversity of welfare states results from the interplay of economic transformations, class politics, interest group dynamics, institutional configurations, historical legacies, and national political cultures. Rather than being driven by a single causal logic, welfare states reflect complex and path-dependent processes shaped by multiple forces over time.

This path-dependence is reflected in substantial cross-national variation in how welfare states have evolved. Different trajectories of industrialization have led to distinct economic and political outcomes and varying scopes of social policy. In other words, the extent of state intervention in the economy is itself shaped by historical paths, which helps explain why countries continue to differ in their social policies in terms of structure, universality, and generosity (Esping-Andersen, 2024; Greve, 2022).

As mentioned above, welfare states have emerged in different ways over time. Nonetheless, at least for European welfare states, it is still possible to observe some common features in terms of the welfare provisions they offer. In this context, identifying such shared characteristics and grouping them into typologies can be helpful for analytical purposes. Typologies are useful in the social sciences because they improve conceptual clarity and provide a more systematic way of describing or explaining a given research interest. Since social reality is often complex and difficult to capture in a fully comprehensive way, typologies can help reduce this complexity by highlighting key characteristics and grouping cases into different types (within the scope of this study, the cases are countries and the types refer to welfare state classifications). These constructed groupings are usually based on the criteria that they should be internally homogeneous (countries within a typology should be as similar as possible) and externally heterogeneous (countries in different typologies should be as distinct as possible from one another). In the welfare state literature, such grouping procedures are often discussed in terms of ideal-type and real-type prototypes (Höppner, 2024).

The labels “ideal” and “real” type should not be understood in their everyday meaning. “Ideal” does not refer to a perfect or normatively superior situation. In a Weberian sense, it reflects the core or the

essence of a phenomenon. Ideal-type classifications provide a benchmark against which real cases can be compared and may offer a broader perspective for evaluating social issues beyond technical details. Their main focus is often on historical and international trends, and they can be especially useful when comparisons involve a relatively large number of cases. By contrast, "real type" does not denote the true or most accurate situation; rather, it indicates that the typology is constructed on a non-Weberian methodological basis, typically relying on observation and empirical clustering. Because it is grounded in detailed empirical information, a real-type approach can be particularly helpful when comparing a smaller number of cases. At the same time, it may be more vulnerable to short-term changes and to the choice of variables used for empirical clustering (Aspalter, 2011, 2020a).

Esping-Andersen's classification of welfare states is perhaps the most widely used typology in welfare state research. Over time, it has gained a paradigmatic status and, although it was originally proposed in 1990, it was still widely used twenty-five years later and continues to inform comparative welfare state analyses (Emmenegger et al., 2015). This classification mainly relies on an ideal-type methodology to group European countries into welfare regimes. With this approach, unlike many studies that focus primarily on government expenditure as a reliable measure of the strength of welfare states, Esping-Andersen emphasizes conceptual and structural differences rather than relying solely on technical or fiscal indicators. In this framework, the members of each group do not necessarily fit perfectly with all the properties of the regime type, but the typology still provides a useful benchmark for comparative analysis (Esping-Andersen, 2024).

This emphasis on conceptual and structural features is also linked to Esping-Andersen's skepticism toward using government expenditure alone as an indicator of the strength or character of welfare states. Treating higher government expenditure as evidence of a "stronger" welfare state tends to underestimate the sociological dimensions of power relations, democracy, and welfare. The relationship between government expenditure and these phenomena does not have to be linear. The impact of spending depends on how and for whom resources are allocated. For instance, higher government expenditure may be channeled primarily toward privileged civil servants and thus remain far from universalistic or redistributive; or, as in Britain under Thatcher, total government expenditure can rise mainly because unemployment has increased, rather than because welfare provisions have become more generous. Conversely, in countries closer to full employment, lower expenditure on certain programs may simply reflect reduced need rather than a weaker welfare state. Overall, Esping-Andersen suggests that classifications of welfare states should focus on the qualitative structure and underlying logic of social rights rather than on spending levels alone (Esping-Andersen, 1990).

Esping-Andersen's classification is being grounded in the concept of de-commodification, which refers to the extent to which people can maintain a decent standard of living without relying entirely on their position in the labor market. In this view, de-commodification is most evident when services are provided as a matter of right. Its degree is not determined solely by government expenditure, but also by institutional features such as income maintenance for the ill or disabled, unemployment benefits, the ease of access to welfare provisions, and their coverage, including pensions and maternity leave. To the extent that such protections reduce market dependence, de-commodification can be understood as contributing to security and may be associated with higher subjective well-being (Radcliff, 2013; Esping-Andersen, 1990).

The de-commodification principle is often discussed in relation to the work of Marshall (1950) and Polanyi (2001) (originally published in 1944). As noted earlier, Marshall (1950) argues that social rights should be granted on the basis of citizenship rather than performance, and that they should provide individuals with a meaningful degree of protection against market dependence. From this perspective, effective de-commodification requires that social rights have both legal and practical standing, in some respects comparable to property rights, and that they are grounded in citizenship. Marshall also emphasizes that social citizenship is linked to social stratification, which suggests that welfare states can themselves operate as systems of stratification. In Esping-Andersen's framework, the state, the market, and the family constitute the three main principles that must be specified in order to classify welfare states, since different configurations of these spheres tend to correspond to different welfare state types (Esping-Andersen, 1990).

Polanyi (2001) similarly highlights tensions within market society. Polanyi argues that laissez-faire capitalism contains a contradiction in the way it treats labor. In order to the system to expand, labor must be treated as a commodity, yet this commodifying logic can also generate instability and, in the long run, may become self-destructive. This line of argument implies that the survival of the economic system requires social protection so that labor is not treated as a pure commodity (Polanyi, 2001). In this sense, de-commodification can be seen as reducing dependence on the market and thereby potentially strengthening workers' bargaining position, which may help explain why employers generally oppose expansions of de-commodifying policies (Esping-Andersen, 1990).

However, labor is not like other commodities, since it consists of living human beings who must be able to survive and, at least to some extent, to prosper in order to reproduce both themselves and society. Esping-Andersen suggests that when workers are treated purely as market commodities that are replaceable, vulnerable, and exposed to forces they cannot control, the result can be insecurity, intensified competition,

and social fragmentation. Such conditions may generate pressures for de-commodification through welfare protections and social rights that limit total market dependence. Without these protections, both individual well-being and the collective solidarity needed for the development of labor movements may be difficult to sustain. Welfare states therefore differ because they respond to these pressures to varying degrees, and de-commodification should not be understood as the complete independence of labor from the market but rather as a matter of degree (Esping-Andersen, 1990).

Esping-Andersen argues that welfare states differ in the extent to which they reduce people's dependence on the market, even when they all recognize social rights. In means-tested social assistance systems, which are often associated with Anglo-Saxon countries, access is typically restricted to demonstrable need and benefit levels tend to be modest. As a result, these systems may reduce poverty, yet they can also encourage most people to rely on the labor market and private provision, limiting their de-commodifying effect. By contrast, social insurance systems, such as the German model, tie benefits to work history and contributions, which can keep social protection closely linked to labor market participation. Beveridge type citizenship benefits provide equal basic support irrespective of prior earnings or contributions and may appear more solidaristic, but Esping-Andersen notes that such benefits have rarely been set at levels high enough to give recipients a genuine option to live decently without working. Overall, his argument is that de-commodification depends less on the simple existence of welfare programs and more on whether their eligibility rules and benefit levels make it possible, in practice, to sustain a socially acceptable standard of living outside the market (Esping-Andersen, 1990).

In what follows, the classification of European welfare states will be discussed in detail. The first three regime types, the social-democratic, conservative-corporatist and liberal models, are directly classified by Esping-Andersen. The last two, the Mediterranean and Eastern European (post socialist) models, are later extensions of this framework.

2.2.1.1. Social-Democratic Welfare States

On the de-commodification scale developed by Esping-Andersen, the social-democratic, also referred as Scandinavian or Nordic, countries such as Sweden, Norway, Denmark and Finland score at the highest end. As the label of this regime already suggests, social-democracy was the main political force behind welfare reforms in these societies. It is also important to note that for more than a century the term social-democrat was often used as a synonym for socialist, which is not surprising given that Marx's concept of alienation reflects the condition in which labor becomes a fully commodified resource. Every country can be placed somewhere on the de-commodification continuum, ranging from liberal states, where labor is treated as a

pure commodity, to socialist states, where the highest level of de-commodification would theoretically be achieved. Since the labels socialist and social-democratic were used interchangeably for many years, Esping-Andersen also employs the terms social-democratic and socialist welfare state interchangeably (Aspalter, 2020b; Esping-Andersen, 1990; Garland, 2016).

The social-democratic welfare state can be described as a distinctive combination of liberal and socialist ideas. It values individual autonomy and the ability of people to shape their own life course, while at the same time relying on extensive publicly provided services to reduce dependence on both the market and the family. By taking responsibility for children, older people and individuals with disabilities, the state eases the burden of care that would otherwise fall primarily on families. This approach enables women to participate in paid work by reducing family based constraints. In practice, the welfare state provides direct benefits for children and assumes responsibility for the care of dependent groups, which supports households and expands women's opportunities in the labor market (Esping-Andersen, 1990). As a result of these supportive family policies, social-democratic welfare states promote a high degree of gender equality and are often described in the literature as "a woman's best friend" or even "a Nordic Nirvana" (van Gerven, 2022).

The properties of social-democratic welfare states can be summarized as follows:

- **High levels of de-commodification:** Although none of the countries in this group achieve complete de-commodification, they nonetheless reach the highest levels observed across different regime types (Garland, 2016). The state plays an active role in guaranteeing a decent standard of living by reducing individual reliance on both market income and family based support (Esping-Andersen, 1990).
- **Generous universalist benefits:** Universalism refers to redistributive policies and social services that apply to all citizens without conditions tied to income or employment status. The relationship between the recipient and the state is not based on reciprocity. Universalism therefore aligns closely with de-commodification because social rights are grounded in citizenship rather than labor market participation (van Gerven, 2022). Benefits tend to be generous and accessible, provided mainly by the state instead of private actors, with equality serving as a central policy objective (Garland, 2016).
- **State rather than private provision:** The social-democratic model socializes the costs of family life in advance through publicly funded childcare, elder care and family benefits. The aim is to promote individual independence by allowing the state to assume much of the responsibility for

care, rather than leaving families to cope on their own (Esping-Andersen, 1990). National and local governments work together to provide public services as legal entitlements, funded through broad based taxation that spreads risk across the entire population. These services are widely used and are considered to be of high quality (van Gerven, 2022). social-democratic regimes in the Scandinavian countries therefore maintain a large public sector and position the state as a model employer, especially through the integration of women into the labor market (Gottschall and Tepe, 2021).

- **High equality:** In social-democratic welfare states, universalism and de-commodification extend not only to the poor or the working class but also to the middle classes. These states have intentionally developed high quality universal public services that benefit all groups within society. These high quality universal public services are funded through comparatively higher tax rates. Moreover, the division between the public sector and the private sector is less pronounced. This institutional design tends to promote equality through high quality standards rather than minimal assistance (Esping-Andersen, 1990). High levels of equality are not solely the outcome of redistribution through higher public spending, tax rates or other explicit redistributive policies; predistribution mechanisms may contribute at least as much to the overall level of equality. Strong unionism and centralized collective wage bargaining practices help to reduce wage inequality through both horizontal coordination, in the sense that wage differences across industries are limited, and vertical coordination, meaning that wage inequality within the same industry but across different firms is constrained. This implies that the returns to labor market skills and education are compressed through collective bargaining (Mogstad et al., 2025).

In social-democratic welfare states there is a close connection between welfare and work. These countries express a normative commitment to full employment, treating the right to work as closely linked to the right to income protection. At the same time, the generous and universal nature of benefits requires significant public resources, which means that the system can remain financially sustainable only when a large share of the population is employed and only a small proportion depends on transfers. High employment therefore functions both as a social right and as the foundation of the tax base needed to finance the welfare state. This commitment is supported by strong trade unions, coordinated bargaining and the extensive use of fiscal policy and active labor market programs. These measures combine generous unemployment benefits with training, job subsidies and initiatives that help individuals return to work, even though the explicit political language of full employment has become less prominent over time. Furthermore, because the Nordic countries are small open economies that depend heavily on exports,

they remain vulnerable to external shocks. This makes the maintenance of competitiveness and high employment especially important. Taken together, these features distinguish social-democratic welfare states from conservative regimes, where women are often discouraged from labor market participation, and from liberal regimes, where market forces take precedence and full employment is not considered a core welfare state objective (Esping-Andersen, 1990; van Gerven, 2022).

Recently, the aging of the population has made it more difficult to fund public services and universal benefits. As older people require more social and health spending, while the number of employed people decreases, the tax base also becomes smaller. These pressures have made social-democratic welfare states somewhat less generous and more conditional. As a result, the differences between welfare states have become smaller. Nevertheless, it is still possible to view social-democratic states as a distinct group, since they continue to show relatively lower inequality, lower poverty, and higher subjective well-being (Kangas and Kvist, 2018).

2.2.1.2. Conservative-Corporatist Welfare States

The conservative-corporatist welfare state, also known as the Bismarckian, Christian-democratic, or industrial achievement model, generally includes Austria, Belgium, Germany, France, Luxembourg, and the Netherlands (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022; Clegg, 2018). It is important to note that these classifications are not fixed. For example, Esping-Andersen initially placed Italy in the continental European group, but later extensions introduced a southern European category that included Italy instead. Since Italy was the only southern European country at the time, its earlier inclusion in the continental group was understandable. Classifications can also vary depending on data availability, institutional emphasis, and the welfare programs under consideration (Wiß, 2022).

It can be useful to briefly recall the historical origins of the Bismarckian model.The term Bismarckian comes from Chancellor Otto von Bismarck, who introduced the first statutory social insurance schemes in Imperial Germany, including compulsory sickness, work accident, and old-age pensions. As industrialization and urbanization created wage labor, workers became dependent on employers and increasingly exposed to market risks such as unemployment, illness, and old age. Previously, such risks were covered by landowners or family members. Over time, wage laborers organized into trade unions and exerted pressure on both governments and employers, leading to the introduction of the first social programs for male workers. These early social insurance schemes were influenced by the religious and moral values of policymakers and aimed at pacifying the working class to maintain social peace. After World War II, these programs gradually expanded (Wiß, 2022; Clegg, 2018).

The main properties of conservative-corporatist welfare states can be summarized as follows:

- **Moderate levels of de-commodification:** Compared to social-democratic countries, conservative-corporatist regimes exhibit only moderate levels of de-commodification. They are also characterized by low levels of de-familialization, meaning that individuals are expected to rely on their families when they face labor market risks. The state operates according to the principle of subsidiarity: it intervenes only when families, religious organizations, or occupational groups are unable to provide sufficient support (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022).
- **Earnings-related benefits:** As in social-democratic countries, benefits are not universal or citizenship-based; instead, they are closely tied to employment status. The primary goal is the preservation of occupational status and the provision of lifelong employment security for labor market insiders. This structure can create difficulties for outsiders, including young people who have completed their education but have not yet entered stable employment. Social rights are generally financed through contributions paid during employment, which determine entitlements in cases of sickness, unemployment, or retirement. Accordingly, benefits vary based on the payroll taxes paid, rather than being provided at flat rates. This feature is also shared with southern and Eastern European welfare systems (Wiß, 2022; Esping-Andersen, 1990; Clegg, 2018).
- **Limited redistribution:** Unlike social-democratic welfare states, conservative-corporatist regimes do not prioritize equality; their aim is to preserve existing social status hierarchies. Because benefits are earnings-related, pre-existing differences between occupational groups remain largely intact and may even be reinforced. Redistribution is therefore limited, as welfare programs tend to reproduce occupational and social stratification rather than reduce it (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022).
- **Emphasis on traditional family roles:** Limited redistribution is also evident across genders. Influenced by the Church, these welfare states prioritize the family and traditional gender roles. Women are generally expected to take primary responsibility for the care of children, older people, and persons with disabilities. Social insurance schemes typically exclude non-working spouses, and, compared to social-democratic countries, family policies and child-related supports are underdeveloped. Because the state functions as a subsidiary actor, it intervenes only when the family is unable to sustain itself (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022).

These core elements of conservative-corporatist welfare states still exist, but they have also undergone gradual change. Traditionally, these welfare states were based on the assumption that, after finishing their

education, many people would enter the labor market as full time workers and remain in relatively stable employment until retirement. In today's labor markets, however, both preferences and structural conditions often make it more difficult for people to obtain and keep stable full time jobs, and workers more frequently change jobs or experience periods of interrupted employment. This can lead to contributions being spread across different jobs, which may increase inequality within society. In several countries, public pensions appear to have been reduced, and the duration of unemployment benefits has become shorter. Market based arrangements, such as employer provided occupational pensions, have gained in importance. At the same time, the decline in union power has weakened the bargaining position of workers. The traditional male breadwinner model, which assigned men primary responsibility for paid work and women for unpaid care, has increasingly given way to a dual-earner model, in which men are more likely to work full time and women more often work part time (Wiß, 2022). In addition, non-contributory benefits for people with limited or no employment histories have expanded in many conservative-corporatist welfare states, so that benefits tend to be less generous but somewhat more universalistic overall (Wiß, 2022; Clegg, 2018).

2.2.1.3. Liberal Welfare States

Liberal welfare states constitute the final group in Esping-Andersen's original classification. This regime type includes English speaking countries such as Australia, Canada, Ireland, New Zealand, the United Kingdom and the United States (Esping-Andersen, 1990; Bonoli, 1997; Garland, 2016; Bambra, 2007). Although the term liberal can carry different meanings in other contexts, in Esping-Andersen's framework it refers to welfare systems that are largely shaped by neoliberal policy orientations, which is why this regime is sometimes described as the neoliberal model (Bochel, 2018). In these systems, the scope for social reform is limited because policymakers are concerned that very generous benefits may weaken work incentives and encourage individuals to rely on welfare rather than participate in the labor market. Welfare programs are therefore designed so as not to undermine the traditional liberal work ethic, which places strong emphasis on self reliance and the moral value of paid work (Esping-Andersen, 1990). As a result, market based solutions are prioritized, and public provisions are often intended to complement rather than replace private arrangements.

These ideological and institutional features are also reflected in public attitudes toward welfare. Support for public welfare at the individual level tends to be relatively low, partly because social policies are frequently framed in negative terms in public and political discourse. Welfare receipt is sometimes linked to personal failure or laziness, while the structural roots of poverty and inequality receive less attention. In line with this restrictive environment, both public social expenditure and tax levels are comparatively

low in these countries (Heins and Dukelow, 2022).

Ideologically, liberal welfare states place particular emphasis on individual freedom, personal responsibility and limited state intervention. Labor market regulation is relatively weak, which contributes to flexible but comparatively insecure employment structures. Trade unions are less influential than in social-democratic regimes, and wage bargaining tends to be decentralized. In terms of welfare provision, these systems often display a dual structure: universal services such as health care or basic pensions coexist with highly targeted and sometimes stigmatizing means-tested benefits. The latter primarily serve those with the lowest incomes, whereas many middle class groups rely on market based provision even for services that are formally universal, partly because receiving targeted assistance can be associated with social stigma (Esping-Andersen, 1990; Heins and Dukelow, 2022).

The key features of liberal welfare states may be outlined as follows:

- **Low levels of de-commodification:** In liberal welfare states the degree of de-commodification is generally low. Since countries in this group are guided by neoliberal values, benefits tend to be selective rather than universal, and are often directed toward those considered most in need, with strict entitlement rules (Bochel, 2018; Esping-Andersen, 1990; Heins and Dukelow, 2022). Liberal welfare states were also early adopters of re-commodification policies. The objective of these policies is to make individuals more reliant on the labor market rather than on the state. Access to public assistance is typically tied to employment status, such as actively searching for work or meeting behavioral requirements. In this context, individuals are not only encouraged but also pressured to work, and because benefits are increasingly linked to labor market participation, this trend is sometimes described as coercive commodification (Heins and Dukelow, 2022).
- **Low benefit levels:** Benefits in liberal welfare states are generally not universal. They tend to be modest in size, mainly targeted at low income groups, and are often tied to employment status with strict entitlement rules. Recipients are frequently categorized as state-dependent and stigmatized. Additional protection is typically provided by employers or purchased by individuals in private markets rather than offered through public provision (Bochel, 2018; Esping-Andersen, 1990; Heins and Dukelow, 2022).
- **Limited emphasis on equality:** The main policy goal in liberal welfare states is to alleviate poverty rather than to promote broader equality. Low levels of de-commodification, limited universal benefits, strict entitlement rules and modest redistribution through taxes and transfers result in a relatively small impact on income equality. In some cases these mechanisms may even contribute

to inequality. Family support is not a central policy priority, and explicit family policies tend to be limited or absent. Adults are generally treated as gender neutral individuals who are expected to manage work and care responsibilities on their own, and those who cannot do so may be labeled as irresponsible or unsuccessful. The focus is not on equality of outcomes but on equality of opportunity, meaning that individuals should have access to similar starting points rather than similar living conditions. Some universal services exist in areas such as health and education, but recent expansions in early childhood care and education often rely on private provision rather than public services (Bochel, 2018; Esping-Andersen, 1990; Heins and Dukelow, 2022).

- **Commitment to reinforcing markets:** As noted above, liberal welfare states operate within a framework shaped by neoliberal values. Welfare programs are therefore designed in ways that avoid weakening the traditional liberal work ethic, which emphasizes self reliance and the moral importance of paid employment. The state reinforces market mechanisms by providing only limited assistance or by subsidizing private welfare provision. The state does not actively intervene in the economy to address poverty or inequalities in income and wealth, and regulation of the labor market is very limited. Even universal publicly provided services are increasingly subject to privatization. Public expenditures and tax levels are relatively low, and one of the broader effects of this model is that individuals are encouraged, and sometimes compelled, to participate in labor markets through modest benefits, low pensions and reliance on private provision of goods and services (Bochel, 2018; Esping-Andersen, 1990; Heins and Dukelow, 2022).

Despite the shared properties of liberal welfare states, the countries within this group differ in how strongly these features are expressed. For instance, in terms of health care provision, the United Kingdom shows several similarities with social-democratic welfare states, particularly in having a National Health Service that offers broad population coverage. Similarly, although not to the same extent as the United Kingdom, Ireland performs comparatively better than the United States and Australia in terms of coverage and public responsibility for health care. By contrast, in Australia and the United States health systems are more market oriented, with a stronger role for private insurance (Eikemo et al., 2008b; Bambra, 2005). Moreover, these systems are not static but continue to evolve as circumstances change. Similar to other welfare regimes, liberal states face several contemporary challenges, including the transition to a carbon neutral and increasingly digital economy, as well as pressures related to migration and population aging (although aging tends to be somewhat less pronounced than in many other OECD countries). The strong reliance on markets has also been shown to be vulnerable to external shocks, such as the recent pandemic. In this context, relatively low levels of government expenditure, limited basic safety nets and high levels of

inequality can constrain the capacity to respond effectively. Although a range of measures was introduced to address the effects of the pandemic, the underlying principles of the liberal welfare state have largely remained intact and are likely to endure (Heins and Dukelow, 2022).

2.2.1.4. Mediterranean Welfare States

Mediterranean welfare states were not included in the original classification of Esping-Andersen. Only Italy was examined, and it was suggested that it belonged with the conservative-corporatist welfare states as a latecomer following a similar path to the continental countries, while the other southern European countries were not considered (Arts and Gelissen, 2002). Ferrera (1996) later characterized Italy, Spain, Portugal, and Greece as Mediterranean welfare states that differ from other European welfare regimes. In addition to these countries, Gal (2010) includes Cyprus, Malta, Israel, and Türkiye in this group as well. The position of Türkiye, especially regarding living standards and the scale of public social spending, has been subject to debate, yet it largely aligns with the main features of Mediterranean welfare states (Gal, 2010; Buğra and Keyder, 2006).

The differences between Mediterranean countries and the EU-15 can be explained by several factors. The modernization process in these countries occurred relatively late due to delayed industrialization (they reached comparable levels only in the 1960s and 1970s), long periods of authoritarian rule, and the persistence of strong traditional values. Late industrialization limited the development of a strong working class, which in earlier industrializing countries contributed significantly to the expansion of welfare rights. Weaker democratic institutions often resulted in less effective bureaucracy and encouraged the use of welfare promises to gain political support rather than as part of coherent long-term planning. Moreover, the legacies of dictatorships and, in some cases, colonial rule continue to influence both public expectations and the institutional design of welfare systems today. In addition, social and regional divisions have sometimes contributed to an allocation of public resources that prioritizes internal security over universal social protection (Gal, 2010).

From the 1980s to the 2008 crisis, the southern European countries (Italy, Portugal, Greece, and Spain) generally followed a path of welfare state expansion. After the consolidation of democracy in the 1980s, these countries increased social spending during the 1990s and early 2000s with the aim of converging toward EU-15 standards, although this process was interrupted by the financial crisis. Even with some convergence, Mediterranean countries continued to experience substantial inequalities and imbalances in social welfare provision, as well as relatively low-quality public administration. Employment rates improved to some extent, but labor market reforms largely targeted young and newly hired workers,

reinforcing a dual structure of secure insiders and precarious outsiders, especially in Spain. As a result, strong labor market segmentation emerged, with older permanent workers receiving relatively generous protections, while younger and temporary workers were concentrated in more unstable and lower-quality jobs. As economies gradually began to recover from the crisis, governments attempted to balance stronger social protection with fiscal discipline. Despite these reforms, southern European welfare states still tend to differ from other European regimes, and social policy spending per capita remains below the EU average and continues to lag behind that of the continent's leading economies (Natili and Jessoula, 2022). Moreover, structural adjustment programs driven largely by supranational actors such as the European Commission, the European Central Bank, and the International Monetary Fund imposed strict austerity measures that put significant downward pressure on social spending (Petmesidou, 2018).

The main properties of Mediterranean welfare states can be summarized as follows:

- **Fragmented, dualistic, and ineffective income maintenance system:** Mediterranean welfare states often have a highly fragmented structure organized by occupational status, similar to conservative-corporatist regimes. Means-tested benefits resemble those found in liberal welfare states and are mostly financed through taxation. This fragmentation can lead to a polarization in protection: relatively generous welfare provisions, especially pensions, are directed toward core labor market insiders in stable formal employment, while large gaps remain for workers in irregular jobs, unemployed youth, and those with weak job security. In general, national minimum income schemes, policies to alleviate poverty and support families have been less developed. A substantial shadow economy and widespread temporary employment may further deepen the divide between insiders with secure benefits and outsiders who remain vulnerable. Overall, this imbalance, with comparatively generous pensions but more limited support for families, children, and the poor, may contribute to the persistence of labor market dualism and continues to pose challenges for welfare inclusiveness, particularly in the context of rising immigration (Natili and Jessoula, 2022; Ferrera, 1996; Petmesidou, 2018).
- **Universal health care with a mixed public-private model:** Southern European countries have created universal health care systems based on citizenship rights. At the same time, the sector is often shaped by a dense and sometimes problematic interaction between public and private providers, with private actors delivering services financed by public funds. This "collusive mix" means that while health care is formally universal, access and quality can vary, shaped by the interplay between public objectives and private interests (Natili and Jessoula, 2022; Ferrera, 1996; Petmesidou, 2018).

- **Limited state capacity and clientelism:** In many southern European countries, the welfare system has historically had limited administrative capacity and has been influenced by clientelistic practices. Rather than being delivered in a fully impartial manner, benefits may sometimes be distributed selectively by political actors in exchange for electoral support or loyalty. This can create situations in which access to certain welfare programs depends partly on political relationships rather than on transparent and universal citizenship-based rights (Ferrera, 1996; Petmesidou, 2018; Gal, 2010).
- **Central role of the family:** The family plays a crucial role in compensating for gaps in public provision. Social policies have often reinforced male breadwinner norms, under the assumption that men should work in full time paid employment while women take primary responsibility for unpaid care. This pattern is associated with relatively low employment rates for women and persistent gender inequalities. In practice, families frequently redistribute income and support among their members, so that those with stronger social protection help those with weaker coverage. As a result, social solidarity tends to operate to a significant extent within the family rather than primarily through the state (Natili and Jessoula, 2022; Gal, 2010; Ferrera, 1996).
- **Importance of religion and civil society:** In these countries, non-governmental organizations, including religious groups, often play an important role in providing social assistance. Italy, Spain, and Portugal, for example, have long had a dense welfare sector linked to the Catholic Church, while in parts of the Balkans similar structures developed to a lesser extent, partly due to different religious traditions. More recently, economic crises appear to have stimulated additional volunteering and civic engagement, even in contexts where organized religious welfare provision was initially weaker (Petmesidou, 2018; Gal, 2010).

Overall, it can be said that the contemporary welfare states of Mediterranean countries reflect the combined and continuing influence of religion, the central role of the family, and clientelistic political relationships. As a result, they tend to have fewer resources, relatively low levels of social spending, weak state support for the poor, and a significant reliance on families and religious organizations for welfare provision. Labor market participation, particularly among women, remains lower than in many other European contexts, and the overall effectiveness of these systems in reducing poverty and social and economic inequalities is limited. Although processes such as Europeanization have brought their welfare structures and spending somewhat closer to those of other European countries, core features of the Mediterranean model remain clearly visible (Gal, 2010).

Southern European welfare states have traditionally concentrated resources on pensions and relied heavily

on families, especially women, to provide care. However, they now face growing pressures to modernize and balance their social protection systems. These pressures stem from population aging, the shift to a service-based economy, globalization, neoliberal policy agendas, European integration, and political upheaval (Natili and Jessoula, 2022). Across the region, where GDP per capita is generally lower than in most advanced industrial economies, labor markets remain highly fragmented and dualized. Although welfare coverage has become somewhat more inclusive, job security has declined for most workers, including former insiders. At the same time, austerity reforms have reduced the most generous peaks of unemployment and pension protection, particularly in Italy and Greece (Gal, 2010; Natili and Jessoula, 2022). Large groups of precarious workers continue to face difficulties in qualifying even for modest benefits, and many remain at risk of severe poverty. In short, despite important reforms and gradual expansion, southern European welfare states continue to face structural constraints and persistent gaps that limit their capacity to protect citizens effectively, especially those in precarious and low-income positions.

2.2.1.5. Central and Eastern European Welfare States

Central and eastern Europe is most commonly defined to include the former communist bloc countries such as Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, and Slovakia (Cook and Inglot, 2021). In comparative welfare state research, countries in the Balkans, including Albania, Croatia, North Macedonia, Bosnia and Herzegovina, Serbia, Montenegro, and Kosovo, are also considered part of this broader central and eastern European region (Aidukaitė, 2010). Although the countries in this group differ significantly from one another, their overall differences from the rest of Europe remain much greater (Fenger, 2007; Aidukaitė, 2010). The legacies of the socialist era, limited fiscal capacity, the widespread presence of the shadow economy (Aidukaitė, 2010), and comparatively low social spending (Saxonberg and Sirovátka, 2018) provide a basis for treating these states as a distinct welfare regime.

Understanding why central and eastern European countries constitute a separate welfare state group requires attention to the historical conditions that shaped their development over a relatively short period of time. These countries have been influenced both by their past and by the West. “The Past” refers to the institutional legacies of state socialist social provision, including universal coverage, guaranteed employment, subsidized consumption, and strong public responsibility. “The West” refers to the external pressures and incentives of European Union integration and the influence of international financial institutions, which promoted market oriented reforms (Offe and Fuchs, 2007). A path dependency perspective is therefore helpful as their current social policies retain important features of both the pre

socialist era and the socialist period (Saxonberg and Sirovátka, 2018).

The main properties of the central and eastern European welfare states over time are summarized in Table 2.3.

During the pre-socialist era, social policies were influenced by ideas similar to those found in conservative-corporatist welfare states, particularly employment based and contribution financed arrangements. Under socialism, welfare policies were reshaped to reflect the idea that society was more important than the individual and that the state was responsible for ensuring a decent life. Although some earlier instruments continued to exist, social protection shifted from occupation based coverage toward broader, universal entitlement. Benefits were often flat rate, and de-commodification was moderate when compared to social-democratic countries. Welfare programs such as health care and employment protection were organized on principles of equality and free public access. Based on the state monopoly over economic planning, both female and male labor force participation was high and income inequality was reduced. The socialist welfare state provided basic health care, education, subsidized food, and housing, although the quality of services varied across regions and sectors. Welfare programs were financed mainly through state budgets (Cook and Inglot, 2021; Saxonberg and Sirovátka, 2018; Cerami, 2006; Hrast and Dobrotić, 2022).

Following the collapse of socialism, social policies were rapidly restructured toward market based and individualized responsibility. Pension systems and health care were reorganized around contribution based benefits linked to personal income and employment records, resembling earlier Bismarckian designs. Privatization and liberalization became central policy goals (Cook and Inglot, 2021; Saxonberg and Sirovátka, 2018; Cerami, 2006; Hrast and Dobrotić, 2022). In some areas, active efforts to liberalize were not fully implemented, yet benefits still declined because they were not properly indexed to inflation. This erosion of value over time has been described as “liberalism by decay” (Saxonberg and Sirovátka, 2018).

Despite the spread of these market-oriented reforms, central and eastern European welfare states remain more comprehensive than liberal regimes. Their institutional arrangements continue to show similarities to conservative-corporatist systems and, to a lesser degree, to social-democratic states. As a result, they are often described as a separate group of welfare states that combine older structures with newer reforms and thus display hybrid characteristics drawn from several welfare models (Aidukaitė, 2010; Fenger, 2007; Saxonberg and Sirovátka, 2018). These hybrid configurations are not only the outcome of institutional legacies and external pressures, but are also closely linked to the attitudes and expectations of citizens towards the welfare state.

Table 2.3: Features of Central and Eastern European Welfare States

Period	Features of welfare states
Pre-socialist era	• Generally built on Bismarckian foundations, similar to conservative-corporatist welfare states, especially Germany, where social insurance is organized as employment based insurance financed through contributions. • Coverage remained limited and state capacity was relatively weak in several countries. • Strong familialist orientation with a dominant male breadwinner model. (Cook and Inglot, 2021; Cerami, 2006; Hrast and Dobrotić, 2022; Saxonberg and Sirovátka, 2018)
During socialism	• State-paternalist and largely universal welfare systems with broad coverage of health care, education, and pensions. As in the Bismarckian tradition, many benefits remained flat rate, which provided a lower level of de-commodification than in social-democratic welfare states (Saxonberg and Sirovátka, 2018; Cook and Inglot, 2021). • Full employment was treated as a core social right and as a source of moderate de-commodification. Both male and female employment rates were high, and relative income inequality was low (Cook and Inglot, 2021). • The quality of services differed by place of residence and economic sector (Cook and Inglot, 2021). • Expansion of public daycare supported higher female employment, while gendered care roles largely persisted. Flat rate benefits under socialism offered only a basic level of security and did not sufficiently replace income, so the economic burden of care continued to fall mainly on women. In this sense, although socialism increased women's employment, the design of benefits still reinforced traditional gender norms (Saxonberg and Sirovátka, 2018; Cook and Inglot, 2021).
Post-socialist era	• Especially in Eastern Europe, during the transition process these countries abandoned communist policies such as full employment. As a result, unemployment became a major issue and economic insecurity increased. Workers' rights were eroded and poverty grew. The World Bank and the IMF promoted policies often described as "shock therapy," involving rapid adjustment to globalization and liberalization. With the aim of reducing public responsibility and strengthening individual responsibility, privatization affected pension systems and the organization of social services, while responsibilities in education and health care shifted from the state to individuals through private provision, means-testing and targeted benefits (Hrast and Dobrotić, 2022). • Hybrid regimes combining Bismarckian insurance, socialist universalism and neoliberal selectivity emerged. Bismarckian type social insurance schemes that provide broad coverage are combined with flat rate, market oriented benefits. In some countries, social assistance for sick and elderly people was provided in a liberal, stigmatizing, means-tested form, for example by requiring individuals to live in specific asylums or homes for seniors (Cerami, 2006; Fenger, 2007; Saxonberg and Sirovátka, 2018). • With the heritage of socialism, most households in many central and eastern European countries have continued to follow a dual-earner pattern, as both women and men have been widely integrated into paid work. At the same time, however, social policies and prevailing norms have tended to treat women as the primary caregivers, so that responsibility for looking after children and elderly family members has still fallen mainly on them. This combination of high female employment with a strongly gendered division of care suggests that, important elements of a traditional male-breadwinner logic may have persisted in practice (Hrast and Dobrotić, 2022; Saxonberg and Sirovátka, 2018). • Although tax collection has improved, growth rates have increased and unemployment has declined in many central and eastern European countries in recent years, benefit levels, government expenditure and the quality of services remain lower than the European Union average, and these countries still lag behind broader EU standards (Cook and Inglot, 2021; Saxonberg and Sirovátka, 2018). • The shadow economy remains a common and persistent challenge (Aidukaitė, 2010).

Against this institutional backdrop, public attitudes in the central and eastern European region have remained strongly shaped by the socialist legacy of universal access and state responsibility for social protection. Populations tend to expect relatively generous benefits, particularly for older groups, and politicians have frequently avoided radical cutbacks due to concerns about social protest and political instability. While this supports the preservation of core welfare commitments, attitudes toward care still appear to reflect traditional gender roles and a strong reliance on the family, which continues to place most caregiving responsibilities on women. Overall, welfare attitudes can be seen as an important constraint on neoliberal reform in the post-communist period. In the transition era, two main strategies were used to avoid public opposition: "divide and pacify" and "liberalism by decay." The first strategy divided social groups by differentiating the benefits they received, making it more difficult for them to unite around

a common goal; its most important elements were early retirement with relatively generous pensions and easier access to disability benefits. "Liberalism by decay" refers to the failure to index pensions and generous benefits to inflation, so that their real value gradually declined over time. Together, these processes may have contributed to weaker welfare provision and rising inequality (Cook and Inglot, 2021; Cerami, 2006; Saxonberg and Sirovátka, 2018).

2.3. Welfare States and Subjective Well-Being

In the previous section, the classification of European welfare states was discussed. Although countries within the same regime type share important institutional features, they may differ significantly in how welfare is delivered. Despite these internal variations, the welfare regime framework remains analytically useful for cross-national comparisons, as it can explain a substantial share of the variation in subjective well-being across countries (Eikemo et al., 2008b). To develop a broader perspective, this section not only considers job satisfaction but also other indicators of subjective well-being such as happiness, perceived health, and work-life balance. The relationship between welfare state policies and subjective well-being will be the focus of this discussion.

Improving well-being is widely recognized as an important aim of economic policy. In promoting well-being, the welfare state plays a balancing and moderating role. It needs to protect labor without undermining employment opportunities, tax profits without discouraging private investment, and regulate markets while still protecting individual freedom (Garland, 2016). Following this, the next step is to understand why different welfare states may lead to different levels of subjective well-being.

The influence of welfare state policies on subjective well-being arises from their core functions. Measures that provide basic safety nets and reduce socioeconomic inequality can play a key role in shaping how individuals evaluate their lives. In addition to reducing poverty (Nullmeier and Kaufmann, 2021), welfare states regulate employer-employee relations, protect workers from dismissal, establish limits on working time, and maintain quality standards for working conditions (Emmenegger and Marx, 2021). They also reduce insecurities associated with labor markets (Carr and Chung, 2014), sometimes even acting as an employer to stabilize employment conditions (Radcliff, 2013; Gottschall and Tepe, 2021). Policies supporting work-life balance (Lunau et al., 2014; Björk-Fant et al., 2023), family friendly measures that contribute to more equal gender roles (Bartoll et al., 2014), and efforts to promote social trust and limit corruption (Rothstein, 2010) are additional mechanisms through which welfare states can enhance subjective well-being and job satisfaction. Thus, multiple channels connect welfare arrangements to subjective well-being.

A useful distinction in this literature concerns the dual role of the state in the promotion of well-being. The welfare state is sometimes described as performing a "Robin Hood function" by alleviating poverty and redistributing income and wealth to reduce social exclusion. The redistributive power of the welfare state is well established in empirical research. Equally important is the "piggy bank function," meaning that even in a perfectly equal society, individuals would still rely on collective mechanisms to redistribute income across the life course in response to predictable needs, such as retirement or health shocks. Thus, the contribution of welfare states to subjective well-being does not originate solely from poverty relief, but also from risk pooling and life course redistribution. While private markets can provide some of these services, state regulation is generally needed to ensure broad access and security (Deeming and Hayes, 2012; Barr, 2001). These redistributive functions provide a foundation for understanding cross-national variation in well-being outcomes. Social-democratic welfare states are generally viewed as the most effective in performing both functions and therefore tend to achieve higher well-being levels than other regimes (Deeming and Hayes, 2012).

Subjective well-being also depends on perceived social position. The negative psychological consequences of being disadvantaged are amplified where inequalities are large. In more egalitarian contexts, these negative effects are weaker. Reducing inequality therefore remains a central policy objective (Sage, 2018). Through unemployment insurance, sickness benefits, family support, and income maintenance, welfare states intervene to moderate market outcomes and ensure security across the life span (Radcliff, 2013). Consequently, the way welfare states address inequality becomes an important determinant of subjective well-being.

As noted previously, welfare regimes differ considerably in their approaches to inequality. Esping-Andersen's theoretical framework suggests that social-democratic regimes redistribute the most and exhibit the lowest inequality. Empirical evidence supports this perspective. Samuel and Hadjar (2016) show that social-democratic countries not only provide higher living standards but also weaken the relationship between social status and well-being (Samuel and Hadjar, 2016). Similarly, Hochman and Skopek (2013) compare countries with different levels of de-commodification and find that wealth has the weakest association with life satisfaction in Sweden (highest de-commodification) and the strongest (lowest de-commodification) in Israel. These findings underscore how institutional design can buffer or magnify the well-being impact of economic disadvantage.

Welfare states also shape health inequalities. Turning to health outcomes, Eikemo et al. (2008b) show that nearly half of the variation in self perceived health across Europe can be attributed to welfare

regime differences. Social-democratic and liberal countries demonstrate higher self perceived health than southern European and central and eastern European welfare states. Although stronger outcomes in social-democratic countries are expected, the relatively good results in liberal regimes can appear counterintuitive. This partly reflects variation within the liberal group: the study includes only Ireland and the United Kingdom, both of which have more universal health coverage than the United States or Australia (Eikemo et al., 2008b; Bambra, 2005). In another study, Deeming and Hayes (2012) find that happiness levels in liberal countries are not significantly lower than in social-democratic regimes and suggest that the original liberal classification may require refinement. Overall, evidence suggests that the configuration of healthcare and social protection institutions plays a visible role in shaping subjective well-being.

Work-life balance is another important domain of well-being that is shaped by welfare institutions. Social-democratic countries generally achieve better outcomes due to policies such as publicly funded childcare and extensive parental leave. In conservative-corporatist regimes, where the male breadwinner model has been historically influential, individuals rely more on family based and part time solutions. Liberal regimes intervene less in family policy, leading households to rely more heavily on market based care. In southern Europe, limited public provision combined with strong familial norms often results in women leaving the labor market. In central and eastern Europe, although dual earner patterns prevail, care responsibilities remain strongly gendered and are sometimes supported by extended family networks (Björk-Fant et al., 2023). Similar findings are reported by Lunau et al. (2014). These institutional differences have direct implications for working hour arrangements and the experience of work-life conflict, which are influential determinants of job satisfaction and well-being.

The generosity of welfare states is closely related to happiness levels. Countries with more generous welfare policies tend to report higher levels of subjective well-being (Pacek and Radcliff, 2008; Easterlin, 2013). Social-democratic countries appear particularly successful not only because of generous redistribution but also because they are more capable of combating poverty and corruption, both of which are strongly associated with well-being (Rothstein, 2010). This highlights that citizens benefit not only from material support but also from the broader institutional quality promoted by welfare states.

Generosity also matters because it reduces perceived insecurity. Carr and Chung (2014) report that during periods of economic recession, when insecurity rises, more generous welfare states are better able to limit increases in employment anxiety and thereby maintain higher well-being. Therefore, the role of welfare policies in reducing individual vulnerability becomes especially visible in times of crisis.

The negative effects of unemployment on well-being can be mitigated through higher earnings replacement rates, which protect living standards and help preserve social status (Sage, 2018). Strong dismissal regulations also reduce labor market insecurity. Moreover, the welfare state can function as an employer, especially in the provision of major public services such as education, health, and infrastructure (Radcliff, 2013). A strong public sector can provide secure employment with better working conditions and, importantly, create opportunities for disadvantaged groups to enter the labor market (Gottschall and Tepe, 2021). Taken together, these mechanisms show that the design of welfare institutions influences both job related experiences and overall life evaluations.

In addition to supporting employment and income security, welfare states also shape well-being by providing and ensuring the quality of social services. The perceived quality of public services is closely linked to individuals' overall life satisfaction (Cnaan, 1989). Indeed, the World Bank's government effectiveness indicator explicitly incorporates perceived quality of public services as one of its core domains (World Bank, nd), which is highly relevant in welfare state contexts (Radcliff, 2013; Kyriacou and Roca-Sagalés, 2019). High-quality public services strengthen social cohesion even during economic hardship, helping individuals maintain a sense of dignity and social status (Andrews and Jilke, 2016). By enabling people to access health care, education, and other essential services, the welfare state enhances inclusion, improves quality of life, and ultimately contributes to higher subjective well-being (Eurofound, 2017).

2.4. Contribution of the Study

The aim of this study is to examine the effect of work-hour mismatch on job satisfaction and the role of welfare states in this association. The analysis uses pooled data from the European Quality of Life Survey (EQLS) 2012 and 2016, covering EU member states and candidate countries.

To examine the effect of welfare states, countries in the data set are grouped according to Esping-Andersen's welfare state classification (social-democratic, conservative-corporatist and liberal). Although Esping-Andersen's classification is relatively old, it has gained a paradigmatic status in the literature and is likely to preserve its importance in the future too (Emmenegger et al., 2015). In addition, in order to classify all countries in the EQLS data set into a welfare state group, later extensions that identify southern European and central and eastern European welfare states are adopted (for more detailed information see 2.2.1). The welfare state categories are incorporated into the empirical models in three ways. First, they are included as independent variables to examine whether living in a particular type of welfare state is associated with higher levels of job satisfaction. Second, they are interacted with the work-hour mismatch variable to

assess whether welfare states can buffer the negative effect of work-hour mismatch on job satisfaction. Third, they are used to stratify the data to investigate whether the consequences of work-hour mismatch differ across welfare state types. In addition to this exogenous classification of welfare states, this thesis constructs another variable that measures the quality of several public services at the individual level using items available in the EQLS data.

To the best of current knowledge, this study contributes to the literature in several ways. First, its use of a broad multi-country dataset is noteworthy. As shown in Table 2.2, most existing research on work-hour mismatch and subjective well-being relies on single country data. In contrast, this study draws on a large scale international sample, which allows for a more robust assessment of whether the observed patterns are specific to particular national contexts or reflect a more general relationship across diverse historical and cultural settings (Kohn, 1987).

Second, this study applies a welfare state framework to test whether the relationship between work-hour mismatch and job satisfaction varies across welfare regimes. Welfare regimes are conceptualized as distinct policy configurations that shape employment relations through social protection, public services, and labor market regulation. Using well-known European regime typologies, the analysis evaluates whether the job satisfaction consequences of over-employment and under-employment differ systematically across these regimes. While several studies use multi-country data to examine work-hour mismatch and subjective well-being (Otterbach, 2010; Başlevent and Kirmanoğlu, 2014; De Moortel et al., 2017; Bartoll and Ramos, 2020; Zhang et al., 2023; Ling et al., 2025), Ling et al. (2025) is the only one that explicitly adopts a welfare state framework in a way that is closely comparable to the present thesis. However, their focus is on subjective well-being in general rather than specifically on job satisfaction, and they adopt a job quality perspective to analyse the relationship between work-hour mismatch and subjective well-being. Moreover, their categorization of Türkiye within the welfare state framework differs from the approach adopted here. They place Türkiye in the Eastern European group, but do not discuss this choice in detail, whereas the current study classifies Türkiye within the southern European welfare states. Although Türkiye may have lower levels of living standards and government expenditure than many southern European countries, its institutional and structural characteristics resemble those of southern European welfare states, and for this reason it is included in that group (Gal, 2010). Türkiye's formal social security system shares key features with southern European welfare regimes. It provides corporatist type health and pension benefits based on employment status, but the system is fragmented and primarily covers workers in formal employment. At the same time, the labor market is marked by widespread informal work, self employment and unpaid family labor, leaving many individuals outside formal social protection. Given the limited reach of social

assistance, families often function as the main source of support in times of need, reflecting the strong role of the family also observed in southern Europe (Buğra and Keyder, 2006; Ferrera, 1996). Because Türkiye's regime placement is debated and, as discussed in Section 4, there may be additional concerns related to data collection for Türkiye, all analyses are also replicated excluding Türkiye as a robustness check.

A third contribution of this thesis is that, in addition to the categorical welfare state classification, the strength of welfare states is assessed using survey questions that ask respondents to evaluate the quality of public services such as health care, education, public transport, child care, long term care and social housing. Each item is measured on a six point scale from 1 to 6, and for the purposes of the analysis these items are summed to create a single index that serves as an individual level proxy for welfare state strength. As discussed toward the end of section 2.3, the quality of public services is closely linked to welfare state policies and is conceptually related to measures of government effectiveness used by the World Bank, which tend to be higher in welfare states with a higher degree of de-commodification, such as social-democratic regimes. Similar to the categorical welfare state classification, this individual level welfare state proxy is used both as an explanatory variable and in interaction with the work-hour mismatch variable.

An alternative strategy would have been to link countries to macro level indicators of welfare state capacity, such as government expenditure, average wage levels, the share of public employment, and macroeconomic conditions such as inflation, unemployment and gross domestic product per capita. However, because the EQLS data used in this study are available only for two waves, this approach would yield only two observations per country, which would limit the reliability of such macro level measures in the empirical models. In view of this constraint, the analysis uses perceived quality of public services as an individual level proxy for welfare state strength, rather than relying on merged country level indicators.

A fourth contribution relates to how work-hour mismatch is operationalized. In examining the effect of work-hour mismatch on job satisfaction, the construction of the key independent variable departs from approaches commonly used in the literature. Work-hour mismatch is defined as the difference between actual and desired weekly working hours. Positive values indicate that workers are working more hours than they would prefer (over-employment), negative values indicate that they would like to work more hours than they currently do (under-employment), and a value of zero represents a match between actual and desired hours. In the subjective well-being literature work-hour mismatch is often treated as a categorical variable. Regardless of the size of the difference between actual and desired working hours,

respondents are classified as over-employed when the gap is positive, under-employed when it is negative, and in a good match when it is zero (or within a chosen threshold). While this approach is widely used and easy to interpret, it treats all deviations from preferred hours as equivalent and therefore obscures information about their magnitude. Another strategy is to preserve the continuous nature of the data and construct three variables. This method has the advantage of capturing both the presence and the size of mismatch, but it is sensitive to extreme values (for a more detailed discussion see section 2.1.1.1).

To address these limitations, this study employs an alternative operationalization that retains the continuous nature of the mismatch information while reducing sensitivity to the extreme hour gaps. The continuous mismatch measures are therefore rescaled using min-max normalization, which maps the variables onto a bounded range and preserves the direction of mismatch as well as the relative ordering of observations. This transformation reduces the extent to which very large reported gaps can mechanically dominate estimates because of their magnitude in hours.

As a robustness check and to preserve comparability with the broader literature, the main analyses are also re-estimated using alternative operationalizations of work-hour mismatch. In addition to the continuous mismatch measures in hours, two commonly used categorical definitions are applied, where a match is defined either as an exact zero-hour gap between actual and desired hours or as a gap within ± 4 hours. Going beyond these standard approaches, this study also implements robustness checks that are less common in the work-hour mismatch literature: the main models are replicated using winsorized versions of the continuous measures at the 99th and 95th percentiles and by re-estimating the models after dropping observations above the 99th percentile to assess sensitivity to extreme values.

3. DATA AND METHODOLOGY

3.1. Data

The aim of this study is to examine the effect of work-hour mismatch on job satisfaction and to assess how welfare states may shape this relationship. The data are drawn from the European Quality of Life Survey (EQLS) (Eurofound, 2019), conducted in 2012 and 2016. The survey covers European Union (EU) member states as well as EU candidate countries and is administered by the European Foundation for the Improvement of Living and Working Conditions (Eurofound). The EQLS provides a broad set of indicators on quality of life and societal conditions, enabling cross country comparisons across Europe.

Although the EQLS is fielded in 2003, 2007, 2012, and 2016, this study uses only the 2012 and 2016 waves because the main variables of interest are available only in these years (for the list of countries covered in each wave, see Table A.1). Since different individuals are surveyed in each wave, the combined dataset is treated as pooled cross-sectional data. In 2016, nearly 37,000 individuals were surveyed, while in 2012 the sample included approximately 44,000 respondents. The next section covers the definition and usage of all variables included in the analysis. A comprehensive list of all variables and their respective details is provided also in Table A.2.

3.2. Definition and Operationalization of Variables

The main dependent variable of this study is job satisfaction. In the EQLS, job satisfaction is measured using the following question: *"Could you please tell me on a scale of 1 to 10 how satisfied you are with each of the following items, where 1 means you are very dissatisfied and 10 means you are very satisfied?: Your present job."* Responses are recorded on a 10-point scale. In this study, the original scale is retained.

The main independent variable is work-hour mismatch. This concept is not directly measured in the survey and is therefore constructed using two EQLS questions. Actual working hours are measured by: *"How many hours do you normally work per week in your main job, including any paid or unpaid overtime?"* Desired working hours are measured by: *"If you could freely choose the number of your working hours while taking into account the need to earn your living, how many hours per week would you prefer to work at present? If you would prefer not to work at all, indicate zero."* Work-hour mismatch is constructed as the difference between actual and desired working hours, as specified in equation 3.1, where i indexes

individuals.

This construction allows three situations to be distinguished. Under-employment refers to cases in which individuals would prefer to work more hours than they currently do. Over-employment refers to cases in which individuals work more hours than they would prefer. No deviation represents the case in which desired and actual hours coincide. Depending on the purpose of the analysis, work-hour mismatch is treated either as a categorical variable (under-employment, over-employment, and no-mismatch), mainly for descriptive presentation, or as a continuous measure that captures the magnitude of under-employment and over-employment.

$$mismatch_i = \begin{cases} \text{under-employed} & \text{if} \quad actual_i - desired_i < 0 \\ \text{no-mismatch} & \text{if} \quad actual_i - desired_i = 0 \\ \text{over-employed} & \text{if} \quad actual_i - desired_i > 0 \end{cases} \tag{3.1}$$

As discussed in Section 2.4 and Section 2.1.1.1, work-hour mismatch is typically operationalized as a categorical variable, as illustrated in equation 3.1. This approach has practical advantages, including simplicity and ease of interpretation. However, it primarily captures whether under-employment or over-employment exists, without reflecting the magnitude of the deviation. For some research questions, this loss of information may be limiting. An alternative approach is to preserve the continuous nature of the measure by modeling under-employment and over-employment as two separate continuous variables, which allows the size of the mismatch to be taken into account. However, hour-based measures can be sensitive to extreme values, which may disproportionately affect estimation and interpretation. To limit the influence of outliers when treating work-hour mismatch in continuous form, this study applies min-max normalization in the empirical analysis. Following equation 3.2, under-employment and over-employment are normalized separately, rather than using a single global normalization. This choice reflects the fact that the two components capture conceptually distinct deviations. In both cases, the minimum value is defined as zero, since only positive values are retained within each component. Before normalization, the under-employment measure is multiplied by -1 so that it becomes positive and has a minimum of zero, consistent with the over-employment measure. This transformation also allows both coefficients to be interpreted in the same direction in the regression output. Given that the minimum is zero by construction, the normalization formula is simplified as shown in equation 3.3, where i represents individuals. As a result, both under-employment and over-employment are scaled to the $[0, 1]$ interval, with higher values indicating larger deviations from desired working hours.

$$x_i^{\text{norm}} = \frac{x_i - x_{\text{min}}}{x_{\text{max}} - x_{\text{min}}} \tag{3.2}$$

$$\text{Over-employment}_i = \begin{cases} \frac{\text{over}_i}{\max(\text{over})}, & \text{if over}_i > 0 \\ 0, & \text{otherwise} \end{cases}$$

$$\text{Under-employment}_i = \begin{cases} \frac{\text{under}_i}{\max(\text{under})}, & \text{if under}_i > 0 \\ 0, & \text{otherwise} \end{cases} \tag{3.3}$$

The analyses incorporate the min-max normalized measure of work-hour mismatch, as defined in Equation 3.3. To assess robustness and maintain comparability with the broader literature, the main models are also re-estimated using alternative operationalizations. First, work-hour mismatch is treated as a categorical variable as in Equation 3.1. In addition, a second categorical specification is used in which "no mismatch" is defined as a gap within ± 4 hours between actual and desired hours. The models are also replicated using the raw continuous measures of under-employment and over-employment in hours. These alternative measures yield results that are consistent with the main findings; details on the construction and usage of all mismatch variables are summarized in Table 2.2. Finally, to assess sensitivity to extreme values in the continuous measures, the study also applies winsorization at the 95th and 99th percentiles and re-estimates the models after dropping observations above the 99th percentile. These robustness checks for handling extreme values are, to the best of current knowledge, not used in the context of work-hour mismatch.

Following work-hour mismatch, the main explanatory variable in this study is the welfare state measure. Building upon the literature reviewed in Section 2.2.1, welfare states are categorized as presented in Table 3.1. This classification is based on the original typology proposed by Esping-Andersen (1990), with later studies extending it to include southern European and central and eastern European regimes.

Although Esping-Andersen's framework was developed in the early 1990s, it has gained paradigmatic status in welfare state research and continues to influence comparative policy analysis (Emmenegger et al., 2015). For this reason, it serves as a useful starting point for the present study. At the same time, given that the data used here are from 2012 and 2016, the temporal distance creates an opportunity to reflect on the extent to which the regime model remains applicable. Some recent studies suggest that regime boundaries may have become less distinct over time. For instance, Tkacova et al. (2024) identifies a convergence trend, suggesting that southern and EU candidate countries may now form a single group,

while the rest of Europe constitutes another. These findings raise questions about whether traditional welfare regime classifications continue to provide meaningful explanatory power in the current context.

Table 3.1: Countries by Welfare State Classification

Welfare Regime	Countries
Social-Democratic (Nordic, Scandinavian)	Denmark, Sweden, Finland
Conservative-Corporatist (Continental)	Austria, Belgium, Germany, France, Luxembourg, Netherlands
Liberal (Anglo-Saxon)	Ireland, United Kingdom
Southern European (Mediterranean)	Greece, Italy, Spain, Portugal, Cyprus, Malta, Türkiye
Central and Eastern European (Post-socialist)	Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Serbia, Montenegro, North Macedonia

Sources: Social-Democratic: (Esping-Andersen, 1990; Garland, 2016; van Gerven, 2022), Conservative-Corporatist: (Esping-Andersen, 1990; Garland, 2016; Wiß, 2022), Liberal: (Esping-Andersen, 1990; Garland, 2016; Heins and Dukelow, 2022), Mediterranean: (Ferrera, 1996; Gal, 2010; Natili and Jessoula, 2022), Central and Eastern European:(Cerami and Vanhuysse, 2009; Deacon, 1992; Fenger, 2007).

In addition to the welfare state classification used as an exogenous measure, this study also includes an alternative indicator: a welfare state proxy constructed at the individual level. This measure is based on the EQLS question: *"In general, how would you rate the quality of each of the following public services in your country?"*, which asks respondents to evaluate the quality of health care, education, public transport, child care, long-term care, social or municipal housing, and the state pension system (see Table 3.2). This variable is included based on the literature emphasizing that the perceived quality of public services is highly relevant in the context of both welfare states and subjective well-being, as discussed in Section 2.3.

To construct the perceived quality of public services index, the response values for each service domain are summed, with higher values indicating better perceived public service quality. The purpose of using a summed index is to reflect individuals' overall exposure to the welfare state across different service areas such as health, education, transport, and pensions. Rather than averaging the scores, which could mask variation across domains, this approach retains the cumulative nature of perceived quality. It reflects the idea that the welfare state is not a single institution but a collection of interrelated systems that jointly shape people's everyday lives (Esping-Andersen, 1990).

Summing the scores also helps preserve variation in how respondents evaluate different aspects of the welfare state. In practice, individuals may experience public services unevenly.For example, rating health care highly while viewing pension provision or housing as poor. Averaging these assessments would compress such variation into a single central value, potentially resulting in the same average score for very different combinations of perceptions. This may obscure the poor quality of specific domains and limit the interpretability of the measure. In contrast, a summed index maintains the cumulative magnitude

of responses and better captures the intensity of perceived service quality. It reflects not only the central tendency but also the total exposure to high- or low-quality public provision, an aspect that is conceptually important when interpreting the welfare state as a multidimensional and cumulative institutional reality, rather than as a uniform experience. This approach is in line with broader theoretical understandings of how welfare states operate through multiple, interlocking domains that together influence subjective well-being.

Table 3.2: Measuring Welfare States at the Individual Level

Variable	Description and Use
Health services Education system Public transport Child care services Long-term care services Social/municipal housing State pension system	• Respondents were asked: *"In general, how would you rate the quality of each of the following public services in your country?"* • Responses range from **1 (very poor quality)** to **10 (very high quality)**. • The items are aggregated into a composite measure to capture the effect of welfare states at the individual level.

The remainder of the variables used in this study are considered among the determinants of job satisfaction. They are examined descriptively to provide a broader perspective and are also included in the empirical analysis as control variables to assess whether the effect of work-hour mismatch remains robust after accounting for other correlates of job satisfaction. The list of variables and their operationalization in this study are summarized in Table 3.3. These include gender, age, education, subjective urbanization of the residential area, contract type, occupation, sector of employment, chronic health problems (measured with the question: *"Do you have any chronic (long-standing) physical or mental health problem, illness or disability? By chronic (long-standing) I mean illnesses or health problems which have lasted, or are expected to last, for 6 months or more."*), income sufficiency (measured with the question: *"A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total monthly income: is your household able to make ends meet….?"*), commute time, work-family balance (measured with the question: *"In general, how do your working hours fit in with your family or social commitments outside work?"*), and feeling tired after work (measured with the question: *"I have come home from work too tired to do some of the household jobs which need to be done."*).

For most of these variables, adjustments were kept minimal. Gender, age, education, household size, subjective urbanization, and chronic health conditions are used in their original form as provided in the EQLS dataset. For the variables on income sufficiency and feeling tired after work, the original Likert-type

response formats are preserved and included in the analysis as ordinal scales. In the case of feeling tired after work, higher values indicate feeling less tired, while for income sufficiency, higher values correspond to greater difficulty in households ability to make ends meet, a negative outcome.

Table 3.3: List of Control Variables

Variable	Variable Type in EQLS	Variable Type in the Analysis
Gender	· Male · Female	Unchanged
Age	Continuous	Unchanged
Education	· Lower secondary or below · Upper secondary or post-secondary · Tertiary	Unchanged
Household size	Numeric, range 1–10	Unchanged
Urbanization (subjective)	· The open countryside · A village/small town · A medium to large town · A city or city suburb	Unchanged
Contract type	· Unlimited permanent contract · Fixed-term < 12 months · Fixed-term ≥ 12 months · Temporary agency contract · Apprenticeship/training scheme · No written contract · Other	· Permanent contract · Fixed-term contract (merged <12m and ≥12m) · No written contract · Other/missing (agency, apprenticeship, other, Don't know/Refusal/missing)
Occupation	· Manager · Professional · Technician/junior professional · Clerical support worker · Service worker · Sales worker · Skilled agricultural/forestry/fisheries · Craft and related trades · Plant/machine operator or assembler · Elementary occupations · Armed forces occupation	Recoded into ILO skill levels: · Skill level < 3 (Clerical support worker, service worker, sales worker, skilled agricultural/forestry/fisheries, craft and related trades, plant/machine operator or assembler, elementary occupations, armed forces occupation) · Skill level = 3 (Technician/junior professional) · Skill level = 3 & 4 (Manager) · Skill level = 4 (Professional)
Sector	· Central, regional, or local government · Other public sector · Private sector · Other	· Public sector = central/local government + other public sector · Private sector = private sector · Other/unknown = Other, Don't know, Refusal
Work-family balance	· Very well, · Rather well, · Rather not well, · Not at all well	· Well = Very well + Rather well · Not well = Rather not well + Not at all well
Commute time	Numeric	Winsorized at 99th percentile
Feeling tired after work	· Every day, · Several times a week, · Several times a month, · Several times a year, · Less often/rarely, · Never	Used as ordinal scale in regressions
Income sufficiency	· Very easily, · Easily, · Fairly easily, · With some difficulty, · With difficulty, · With great difficulty	Used as ordinal scale in regressions
Chronic health issue	· Yes · No	Unchanged

For work-family balance, the original four categories are collapsed into two to increase clarity and interpretability. Regarding contract type, the original seven categories are reduced to four in order to minimize information loss while addressing issues related to small cell sizes. Permanent unlimited contracts are retained as one category. Fixed-term contracts, those longer than 12 months and those shorter than 12 months, are combined. Written contracts without official status are preserved as a separate category, as they may indicate informal or semi-formal employment arrangements, which are more common in

southern European and central and eastern European welfare states. The remaining contract types, which include only a small number of observations, are grouped into a residual "other/missing" category to avoid dropping cases from the analysis.

Occupation is rearranged in this study based on the definitions provided by the International Labour Organization (ILO). In the dataset, some occupational groups include relatively few observations. To address this issue and enhance interpretability, the original categories are reorganized according to the ILO's skill-level classification. This approach preserves information while ensuring alignment with international standards. Specifically, clerical support workers, service workers, sales workers, skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators, elementary occupations, and armed forces are classified as skill level below 3. Technicians and junior professionals are grouped under skill level 3, professionals under skill level 4, and managers are considered to span both skill levels 3 and 4. This classification offers a more parsimonious structure, maintains theoretical consistency, and improves the clarity of the empirical analysis.

For the commuting variable, the numeric and continuous nature of the data is preserved; however, it is winsorized at the 99th percentile. Winsorization is a technique that replaces values above a certain threshold with the value at that threshold, in this case the 99th percentile, in order to reduce the influence of extreme outliers while maintaining the overall distribution. Unlike trimming, which removes outliers entirely, winsorization retains the observations but limits their impact by making them less extreme (Sullivan et al., 2021). This procedure is adopted because a few implausible values are present in the dataset, such as a reported commute time of 720 minutes per day, which is not realistic. After applying winsorization at the 99th percentile, the maximum commuting time in the data becomes 180 minutes. A similar approach is used by Dickerson et al. (2014) to address outliers in commuting time. In line with their study, winsorization is applied at both the 99th percentile.

3.3. Hypotheses of the Study

Based on the research question and informed by insights from the literature, this study proposes the following three main hypotheses:

> ***H1-a:*** *Both under-employment and over-employment have a negative effect on job satisfaction.*
>
> ***H1-b:*** *The effect of under-employment is expected to be stronger than that of over-employment.*

The first part of this hypothesis is grounded in theoretical insights from discrepancy theory, which suggests that dissatisfaction arises when there is a divergence between expectations and actual experiences. This

view is supported by previous research that links work-hour mismatch to lower levels of subjective well-being (see Section 2.1.1.1).

The second part of the hypothesis is more open to debate, as the existing literature offers evidence for both possible outcomes. Some studies suggest that under-employment leads to greater dissatisfaction, while others find stronger effects for over-employment. However, drawing on insights from prospect theory (Kahneman and Tversky, 1979), which posits that losses are weighted more heavily than equivalent gains, it is plausible that the negative effect of under-employment may be stronger. If under-employment is perceived as a loss of working hours, and by extension, of income, job security, or other benefits, this loss may carry greater psychological weight than the perceived "gain" of additional hours associated with over-employment.

> ***H2:*** *Welfare states with higher de-commodification buffer against the negative effect of work-hour mismatch.*

To test this hypothesis, the welfare state classification of European countries will be utilized. The expectation is based on insights from the welfare state literature, particularly the idea that higher levels of de-commodification can reduce individuals' dependence on market outcomes and provide greater security in the face of labor market risks. Since both under-employment and over-employment are associated with lower subjective well-being, this hypothesis suggests that countries with more generous welfare institutions, particularly social-democratic regimes, may buffer individuals from the negative effects of work-hour mismatch.

Accordingly, the magnitude of the effect of under-employment and over-employment on job satisfaction is expected to vary across welfare regimes. While Esping-Andersen's classification retains paradigmatic status and is likely to remain influential (Emmenegger et al., 2015), there is also evidence suggesting that the boundaries between regimes may have become less distinct in recent years, potentially leading to convergence and a smaller number of clusters (Tkacova et al., 2024). To provide further evidence on the role of welfare states in moderating the mismatch-satisfaction relationship, Hypothesis 3 introduces an alternative individual level indicator of welfare state strength.

> ***H3:*** *Quality of public services (welfare state proxy) buffers against the negative effect of work-hour mismatch.*

This hypothesis draws on the literature suggesting that welfare states shape individual wellbeing through the provision of essential public services. Data availability at the individual level makes it possible to test whether perceived quality of public services can buffer the negative effect of work-hour mismatch on job

satisfaction. While a buffering effect is considered for both under-employment and over-employment, the emphasis is particularly on over-employment. In the literature, over-employment is often associated with worse work-life balance and time pressure, but not necessarily with lower earnings. By contrast, under-employment is linked to lower income but relatively better work-life balance. From this perspective, the perceived quality of public services, particularly in areas such as education, childcare, or transport, may be more relevant in alleviating the time-related strains of over-employment. For instance, high-quality educational services may ease the burden for working parents who struggle to balance long hours with caregiving responsibilities.

It is important to note that the variable used in this study reflects perceived quality rather than affordability or accessibility. Many services delivered by governments, including health care, education, pension systems, and social housing, are not pure public goods provided freely to all, but rather "publicly provided private goods" that can remain excludable in practice. Health care systems, for instance, frequently involve co-payments or out-of-pocket costs; education entails indirect costs such as transport and materials; pension systems are typically contributory, tying eligibility to formal employment history; and social housing is commonly rationed through eligibility thresholds and waiting lists (Stiglitz and Rosengard, 2015). Quality and financial accessibility can therefore be considered analytically separable dimensions: a service may be perceived as high quality by those who can access it, yet remain financially out of reach for others. Since under-employment is generally associated with lower earnings, individuals in under-employment may struggle to afford these services regardless of their perceived quality, which may limit the buffering effect in this group. This potential limitation should be kept in mind when interpreting the findings.

3.4. Empirical Approach

This study employs Ordinary Least Squares (OLS) to estimate the effect of work-hour mismatch on job satisfaction. The dependent variable, job satisfaction, is measured on a 10-point scale. Since this is an ordinal measure, ordered response models such as ordered probit or logit might seem more appropriate at first glance. These models treat each response category as a distinct threshold on an underlying continuous scale and are specifically designed for such outcomes. However, they present limitations that make them less suitable here. The coefficients from ordered probit and logit models are not directly interpretable and require transformation into marginal effects or odds ratios, which vary across response categories and complicate the interpretation of results. More fundamentally, these models rely on the parallel regressions assumption, which requires the relationship between the explanatory variables and the outcome to remain constant across all response thresholds (Greene, 2012). With a 10-point scale, this assumption is difficult to

justify. In this thesis, when ordered models were estimated as a robustness check, the Brant test indicated that the parallel regression assumption was violated in the present data, providing further empirical support for the use of OLS.

Treating job satisfaction as a continuous variable and estimating the model with OLS is nevertheless a well-established practice in the subjective wellbeing literature. Ferrer-i Carbonell and Frijters (2004) showed that assuming cardinality produces results that are largely comparable to those from ordered response models, while allowing for a more straightforward interpretation. This approach is also widely adopted in the work-hour mismatch literature (see Bell and Blanchflower (2019), Wooden et al. (2009), Angrave and Charlwood (2015), Frei and Grund (2022), and Lee et al. (2015)), and the present study follows the same convention. For robustness, ordered logit results are reported in Table B.1. Despite the violation of the parallel regression assumption, the ordered logit results are broadly comparable to the OLS estimates, which are discussed in Section 5, consistent with the findings of Ferrer-i Carbonell and Frijters (2004).

The data used in this study are drawn from the 2012 and 2016 waves of the EQLS. To increase the sample size and improve statistical power, the two waves are pooled. Since the EQLS is not a panel survey and different individuals are surveyed in each wave, the dataset constitutes a repeated cross-section. To account for time-specific effects, a year dummy variable is included in the models.

The relationship between work-hour mismatch and job satisfaction is estimated using a pooled OLS model with country and year fixed effects. This specification helps control for unobserved heterogeneity across countries and survey years.

To test Hypothesis 1, the baseline model is specified as shown in Equation 3.4.

$$\textbf{\textit{Model 1 (Base Model):}} \quad \text{js}_{ict} = \beta_0 + \beta_1 \, \text{over}_{ict} + \beta_2 \, \text{under}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.4}$$

In this specification, the subscripts i, c, and t refer to individual, country, and survey year, respectively. The dependent variable is self-reported job satisfaction, denoted by js_{ict}. The main explanatory variables are $over_{ict}$, representing over-employment, and $under_{ict}$, representing under-employment. Both variables are normalized to the $[0, 1]$ interval, as described in Equation 3.3. These measures capture the extent to which actual working hours deviate from desired working hours in either direction.

In this empirical specification, one might raise concerns about potential endogeneity between work-hour mismatch and job satisfaction. However, given the nature of work-hour mismatch, this concern may

be of limited consequence. By construction, work-hour mismatch comprises two components, actual working hours and desired working hours as shown in Equation 3.1, and can therefore be resolved either by adjusting actual hours through employer-employee bargaining or job mobility, or by revising individual preferences over time (Kawata, 2015; Reynolds and Aletraris, 2006).

The job satisfaction literature provides further support for this reasoning. Clark (1996) found that job satisfaction improves either when objective job characteristics change (actual working hours) or when individuals adjust their expectations (desired working hours). While endogeneity between working hours and job satisfaction is a common concern, as satisfied individuals may choose to work longer hours, this logic does not directly apply to work-hour mismatch. It is well-documented that mismatch negatively affects satisfaction (Bartoll and Ramos, 2020; Grund and Tilkes, 2023; Pagan, 2017), whereas voluntarily working long hours does not carry the same negative consequence (Beckers et al., 2008). Individuals who voluntarily work long hours are unlikely to report a preference for fewer hours and, therefore, would not be classified as over-employed. This suggests that the mismatch measure used here captures constrained situations rather than freely chosen ones, which limits the potential for reverse causation. Nevertheless, as endogeneity cannot be entirely ruled out, a strictly causal interpretation will be avoided throughout the study.

The baseline model also includes *country fixed-effects* (γ_c) to account for unobserved, time-invariant differences across countries, such as institutional configurations, labor market structures, or welfare provisions, that may influence job satisfaction. Including these fixed effects helps reduce the risk of attributing cross-country variation in subjective well-being to individual level factors such as work-hour mismatch.

In addition, *year fixed-effects* (δ_t) are included to control for common macro-level shocks or time-specific trends that may affect all countries within a given survey wave. These could include broader economic developments, shifts in labor market conditions, or EU-level policy changes. Including both sets of fixed-effects strengthens the empirical strategy by helping to address potential bias from omitted structural or temporal confounders.

Before introducing the welfare state framework in the empirical specifications, control variables are sequentially incorporated into the baseline model to account for individual and job-related characteristics. This stepwise approach enables a transparent assessment of the robustness of the relationship between work-hour mismatch and job satisfaction to the inclusion of additional controls. Specifically, Model 2 adds basic demographic controls: *age* (`age`), *age squared* ($\texttt{age}^2$), *gender* (`gender`), *education level*

(`educ`), *household size* (`hhsize`), and *subjective urbanization of the residential area* (`urban`). Model 3 introduces *occupation* (`occupation`). Model 4 adds *contract type* (`contract`), and Model 5 includes the *sector of employment* (`sector`). Model 6 incorporates *commuting time* (`commute`), which is winsorized at the 99th percentile to reduce the influence of outliers. Model 7 controls for *perceived income sufficiency* (`sufficiency`), while Model 8 includes a measure of *work-family balance* (`wfb`). Model 9 introduces an indicator for *chronic health problems* (`health`), and finally, Model 10 adds a variable capturing whether the respondent reports *feeling too tired after work* (`tired`).

$$\textbf{\textit{Model 2:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.5}$$

$$\textbf{\textit{Model 3:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.6}$$

$$\textbf{\textit{Model 4:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} + \beta_{10}\,\text{contract}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.7}$$

$$\textbf{\textit{Model 5:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} + \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.8}$$

$$\textbf{\textit{Model 6:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} + \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \beta_{12}\,\text{commute}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.9}$$

$$\textbf{\textit{Model 7:}} \quad \text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} + \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} + \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \beta_{12}\,\text{commute}_{ict} + \beta_{13}\,\text{sufficiency}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \tag{3.10}$$

Model 8: $$\begin{aligned} \text{js}_{ict} = \beta_0 &+ \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} \\ &+ \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} \\ &+ \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \beta_{12}\,\text{commute}_{ict} \\ &+ \beta_{13}\,\text{sufficiency}_{ict} + \beta_{14}\,\text{wfb}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \end{aligned} \tag{3.11}$$

Model 9: $$\begin{aligned} \text{js}_{ict} = \beta_0 &+ \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} \\ &+ \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} \\ &+ \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \beta_{12}\,\text{commute}_{ict} \\ &+ \beta_{13}\,\text{sufficiency}_{ict} + \beta_{14}\,\text{wfb}_{ict} + \beta_{15}\,\text{health}_{ict} \\ &+ \gamma_c + \delta_t + \varepsilon_{ict} \end{aligned} \tag{3.12}$$

Model 10: $$\begin{aligned} \text{js}_{ict} = \beta_0 &+ \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \beta_3\,\text{age}_{ict} + \beta_4\,\text{age}^2_{ict} + \beta_5\,\text{gender}_{ict} \\ &+ \beta_6\,\text{educ}_{ict} + \beta_7\,\text{hhsize}_{ict} + \beta_8\,\text{urban}_{ict} + \beta_9\,\text{occupation}_{ict} \\ &+ \beta_{10}\,\text{contract}_{ict} + \beta_{11}\,\text{sector}_{ict} + \beta_{12}\,\text{commute}_{ict} \\ &+ \beta_{13}\,\text{sufficiency}_{ict} + \beta_{14}\,\text{wfb}_{ict} + \beta_{15}\,\text{health}_{ict} \\ &+ \beta_{16}\,\text{tired}_{ict} + \gamma_c + \delta_t + \varepsilon_{ict} \end{aligned} \tag{3.13}$$

To test Hypothesis 2, whether the welfare-state regime moderates the relationship between work-hour mismatch and job satisfaction, all individual level control variables are excluded. Instead, the analysis includes welfare regime dummies, allowing for a focus on regime-level variation and year fixed-effects. This specification is represented in Equation 3.14 and is intended to isolate the role of welfare states as classified by Esping-Andersen and subsequent extensions.

Welfare Regime Model: $$\text{js}_{ict} = \beta_0 + \beta_1\,\text{over}_{ict} + \beta_2\,\text{under}_{ict} + \sum_{r=2}^{R} \alpha_r\,\text{regime}_{r,c} + \delta_t + \varepsilon_{ict} \tag{3.14}$$

Here, $\sum_{r=2}^{R} \theta_r\,\text{Regime}_{r,c}$ denotes a set of dummy variables indicating the welfare regime classification of country c, where individual i resides. The regimes included are social-democratic, conservative-corporatist, liberal, southern European, and central and eastern European. One regime is omitted as the reference category to avoid perfect multicollinearity.

To explore whether residing in a particular welfare regime moderates the association between work-hour mismatch and job satisfaction, the mismatch variables are later interacted with the welfare regime dummies as in Equation 3.15. In addition, to further examine regime-level heterogeneity, the sample is stratified

by welfare regime, and the ten models introduced earlier are re-estimated separately for each group. Country fixed-effects are excluded in these stratified estimations to avoid over-controlling for regime-level variation. Including both country and regime dummies in the same specification risks multicollinearity and may reduce interpretability, as country fixed-effects absorb much of the variation attributable to welfare regimes.

$$\textbf{\textit{Regime Interaction Model:}} \quad \text{js}_{ict} = \beta_0 + \beta_1 \,\text{over}_{ict} + \beta_2 \,\text{under}_{ict} + \sum_{r=2}^{R} \alpha_r \,\text{regime}_{r,c} + \sum_{r=2}^{R} \lambda_r \left(\text{over}_{ict} \times \text{regime}_{r,c}\right) + \sum_{r=2}^{R} \theta_r \left(\text{under}_{ict} \times \text{regime}_{r,c}\right) + \delta_t + \varepsilon_{ict} \tag{3.15}$$

To test Hypothesis 3, which posits that perceived quality of public services influences job satisfaction, the model specified in Equations 3.16 is estimated, where pqps_{ict} denotes the perceived quality of public services. This specification includes the public service quality index as an explanatory variable.

$$\textbf{\textit{Quality of Public Services Model:}} \quad \text{js}_{ict} = \beta_0 + \beta_1 \,\text{over}_{ict} + \beta_2 \,\text{under}_{ict} + \beta_3 \,\text{pqps}_{ict} + \delta_t + \epsilon_{ict} \tag{3.16}$$

To assess whether perceived quality of public services moderates the relationship between work-hour mismatch and job satisfaction, the model is extended by interacting perceived service quality with both over-employment and under-employment, as shown in Equation 3.17. As robustness checks, the model is estimated both with and without the full set of individual level control variables, and with and without country fixed effects, to assess the stability of the results across alternative specifications.

$$\textbf{\textit{Quality of Public Services Model (Interaction):}} \quad \text{js}_{ict} = \beta_0 + \beta_1 \,\text{over}_{ict} + \beta_2 \,\text{under}_{ict} + \beta_3 \,\text{pqps}_{ict} + \beta_4 \left(\text{over}_{ict} \times \text{pqps}_{ict}\right) + \beta_5 \left(\text{under}_{ict} \times \text{pqps}_{ict}\right) + \delta_t + \epsilon_{ict} \tag{3.17}$$

4. DESCRIPTIVE ANALYSIS

This section describes the variables used in the empirical analysis in order to provide additional insights. It is organized into three subsections, each focusing primarily on differences across welfare regimes. All figures and summary statistics are computed using individual weights.

In the first subsection, the key variables of interest, job satisfaction, work-hour mismatch, actual working hours, and desired working hours, are examined at the welfare regime and country levels to assess whether these variables vary across regimes and countries.

In the second subsection, the analysis is extended to work-hour mismatch categories. The main focus is on the prevalence of under-employment (working fewer hours than desired), no-mismatch (perfect alignment between actual and desired working hours), and over-employment (working more hours than desired). The shares of these three outcomes are examined at the welfare regime level. In addition, differences across welfare regimes and mismatch categories in job satisfaction, actual working hours, and desired working hours are discussed.

In the third subsection, perceived quality of public services is examined by welfare regime and by service domain. This measure is later used in the empirical analysis as an individual level proxy for welfare state strength.

The fourth subsection incorporates control variables into the descriptive analysis to explore how the key variables of interest are associated with these controls across welfare regimes and survey years.

4.1. Job Satisfaction and Working Hours

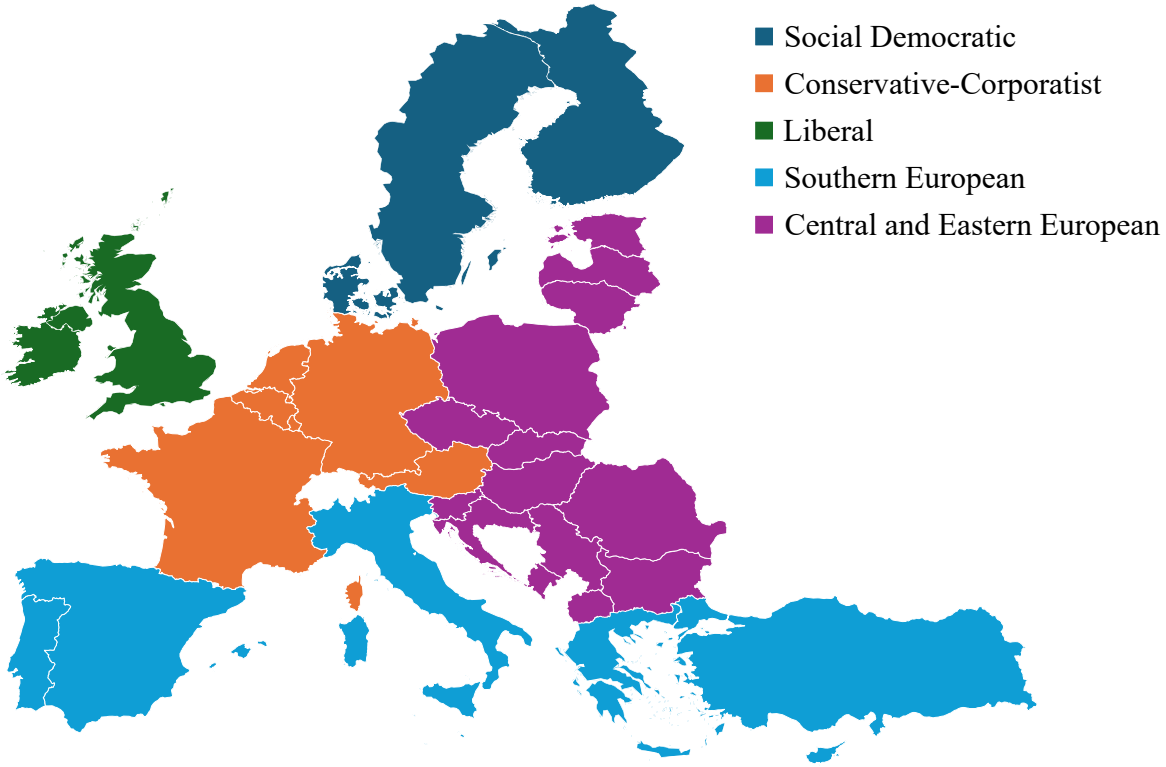
In this section, the main variables of interest, job satisfaction and work-hour mismatch, are described by welfare regime and survey year. Work-hour mismatch, which serves as the main independent variable, is measured as the difference between actual hours worked and preferred working hours. Therefore, this section also includes descriptive results for actual and desired working hours.

As noted earlier, the welfare regimes and the countries covered in each group are as follows. The social-democratic group consists of Denmark, Finland, and Sweden. The conservative-corporatist group covers Austria, Belgium, Germany, France, Luxembourg, and the Netherlands. The liberal group consists of

Ireland and the United Kingdom. The southern European group covers Cyprus, Greece, Spain, Italy, Malta, Portugal, and Türkiye. The central and eastern European group covers Bulgaria, the Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia, Slovakia, Montenegro, North Macedonia, and Serbia. Figure 4.1 shows the location of each welfare regime across Europe.

Maps are used in this section to summarize descriptive patterns. Figures 4.2, 4.3, 4.4, and 4.5 show, respectively, average job satisfaction, average working hours, average desired working hours, and average work-hour mismatch by country and survey year. In addition to these maps, Table 4.1 reports the corresponding averages, dispersion measures, and numbers of observations for each welfare regime. Exact country values are reported in Table A.3.

Figure 4.1: Map of European Welfare States



Source: Produced by the author.

Figure 4.2 suggests that social-democratic countries tend to report relatively high job satisfaction on average. Consistent with this pattern, Table 4.1 shows that average job satisfaction in this group is above 8 (on a 0 to 10 scale) in both years. Dispersion is also relatively low, which may indicate that job satisfaction is more concentrated at higher levels in these countries.

Although there is some variation within each regime, Denmark, Finland, and Sweden appear among the countries with higher averages, as reflected by darker shades on the map. This pattern is broadly in line

with stronger social policies, higher perceived quality of public services, and relatively high labor market security. In contrast, many southern European and central and eastern European countries appear lighter on the map, indicating lower average job satisfaction. This may be related to differences in labor market conditions and welfare provision, as well as variation in job quality across countries.

Social-democratic countries are followed by conservative-corporatist countries, with an average around 7.6 in both years. Dispersion in this group is higher than in social-democratic countries but lower than in the remaining regimes, suggesting relatively high job satisfaction for many individuals, although with somewhat greater variation.

Table 4.1 also indicates that conservative-corporatist countries are closely followed by liberal countries. Although the difference in average job satisfaction is small in both years, dispersion is higher in 2012 than in 2016. This suggests that, even though average job satisfaction changes only modestly, the liberal group becomes slightly more homogeneous over time.

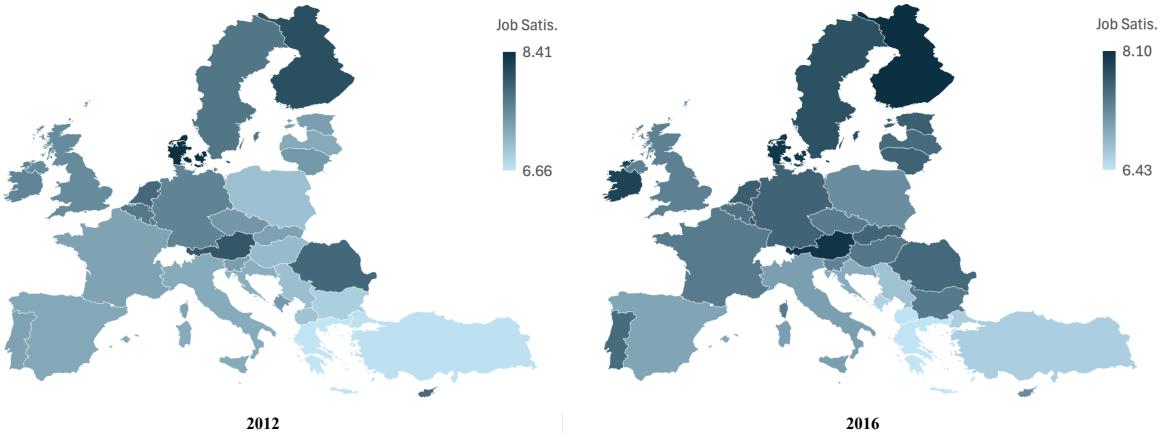
Table 4.1: Summary Statistics of Main Variables by Welfare Regime

	2012			2016		
	Mean	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**
Social-Democratic						
Job satisfaction	8.13	1.72	1,545	8.01	1.73	1,555
Hours worked	38.53	9.50	1,545	38.33	10.95	1,555
Preferred working hours	35.21	9.00	1,545	33.12	9.91	1,555
Work-hour deviation	3.32	9.14	1,545	5.21	10.27	1,555
Conservative-Corporatist						
Job satisfaction	7.65	1.91	4,377	7.61	1.95	3,769
Hours worked	37.26	11.44	4,377	36.56	11.17	3,769
Preferred working hours	34.40	10.35	4,377	32.45	9.98	3,769
Work-hour deviation	2.86	10.16	4,377	4.11	10.13	3,769
Liberal						
Job satisfaction	7.64	2.09	1,496	7.58	1.96	1,093
Hours worked	35.81	13.88	1,496	36.56	13.10	1,093
Preferred working hours	32.10	11.14	1,496	31.83	10.54	1,093
Work-hour deviation	3.71	11.67	1,496	4.73	11.68	1,093
Southern European						
Job satisfaction	7.24	2.10	3,624	7.09	1.94	3,911
Hours worked	42.01	14.10	3,624	40.73	13.61	3,911
Preferred working hours	36.55	11.13	3,624	34.66	11.61	3,911
Work-hour deviation	5.46	14.14	3,624	6.07	15.58	3,911
Central and Eastern European						
Job satisfaction	7.27	2.24	6,348	7.29	2.21	6,165
Hours worked	42.60	10.39	6,348	42.90	10.05	6,165
Preferred working hours	38.30	11.04	6,348	35.95	11.05	6,165
Work-hour deviation	4.30	12.77	6,348	6.95	12.67	6,165

Source: Based on the EQLS 2012 and 2016 data.

The lowest average job satisfaction is observed in southern European and central and eastern European countries. In southern Europe, average job satisfaction declines over time. Dispersion is highest in central

Figure 4.2: Average Job Satisfaction by Years



Source: Based on the EQLS 2012 and 2016 data.

and eastern Europe, indicating that job satisfaction varies more widely across these countries than in the other welfare regimes.

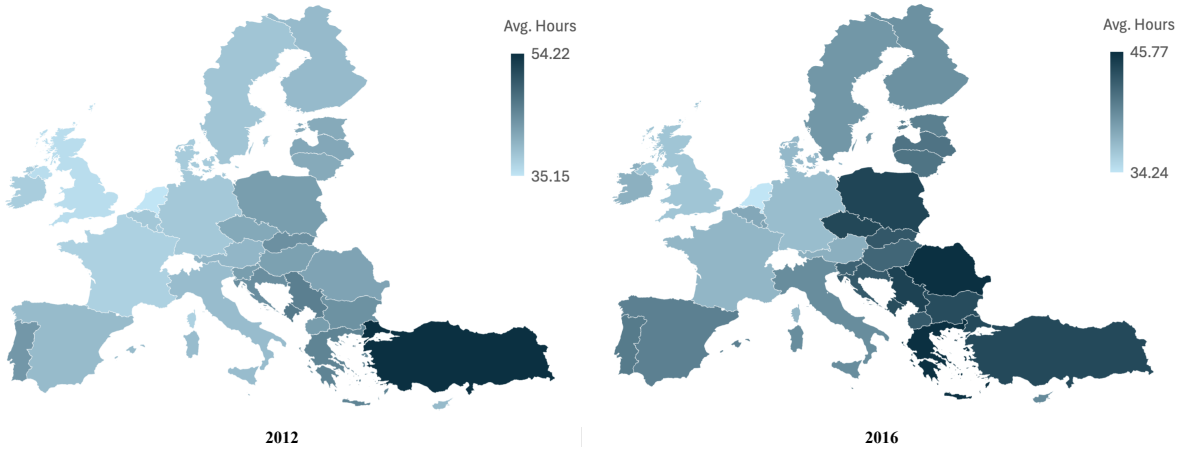
Figure 4.3 presents average working hours by country, and the corresponding welfare regime averages are summarized in Table 4.1. Overall, average working hours appear fairly stable across the two survey years within each welfare regime. At the same time, there are clear differences across regimes. Average working hours are higher in southern European and central and eastern European countries than in social-democratic, conservative-corporatist, and liberal countries. The standard deviation of working hours is again lowest in the social-democratic group, suggesting less variation in working hours compared to the other regimes. The lowest averages are observed in liberal countries, where more flexible labor market arrangements are often discussed. On average, southern European and central and eastern European countries work about seven hours more per week than liberal countries.

Country specific values are reported in Appendix Table A.4. This table shows that Türkiye has the highest average working hours in 2012, at around 54 hours. Given that the median is 50, this high average does not appear to be driven solely by outliers and may reflect broader labor market patterns. In 2016, the reported average declines to around 44 hours, implying a drop of nearly 10 hours. However, this large change is not mirrored in administrative data from the ILO (International Labour Organization, nd). According to the ILO, average working hours in Türkiye are 47.8 in 2012 and 45.9 in 2016. While these figures suggest a decline, it is much smaller than the change implied by the EQLS.

One possible explanation is that the EQLS is a repeated cross-sectional survey, meaning different individuals are surveyed in each wave. As a result, even modest shifts in the sample can affect reported

averages. Differences in how respondents interpret the question, or in how interviews are conducted, may also vary across years and amplify these changes. Taken together, the apparent 10 hour drop in the EQLS likely reflects a combination of moderate real change and sampling or measurement effects, rather than a sharp reduction in working time for the Turkish workforce as a whole. Even so, the broader pattern remains that southern European countries tend to report longer working hours than social-democratic, conservative-corporatist, and liberal countries.

Figure 4.3: Average Working Hours by Years



Source: Based on the EQLS 2012 and 2016 data.

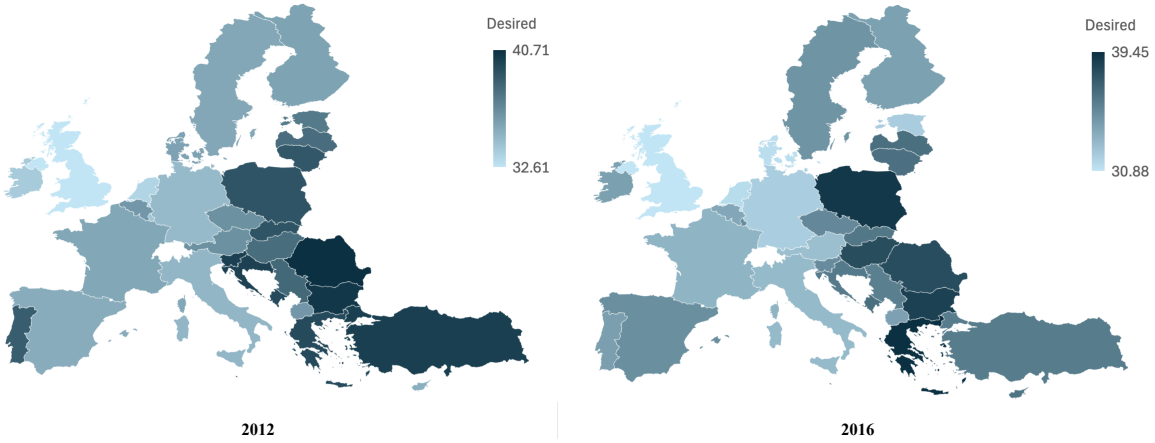
Figure 4.4 presents average desired working hours by country. Both the map and Table 4.1 suggest that desired working hours are higher in central and eastern European countries, followed by southern European countries. In contrast, many Western European and Scandinavian countries report lower desired working hours. Across regimes, average desired hours appear to decline by around two to three hours over time. The lowest desired hours are observed in liberal regimes, at about 32 hours per week on average, while the highest averages are in central and eastern European countries. Dispersion in desired working hours is lowest in social-democratic countries, which may indicate that preferences and constraints are more similar across individuals in this group. Exact country values are reported in Appendix Table A.4.

It is important to note that desired hours may not reflect preferences alone. The survey question explicitly asks respondents to consider income needs: "If you could freely choose the number of your working hours while taking into account the need to earn your living, how many hours per week would you prefer to work at present? If you would prefer not to work at all, indicate zero." This framing suggests that responses may partly capture economic necessity. In settings with lower wages, tighter household budgets, or fewer opportunities for flexible employment, individuals may report a preference for longer hours. In addition, as discussed earlier, expectations and reference group comparisons may matter. Where long working

hours are common, preferred hours may also be higher because longer schedules become more normative.

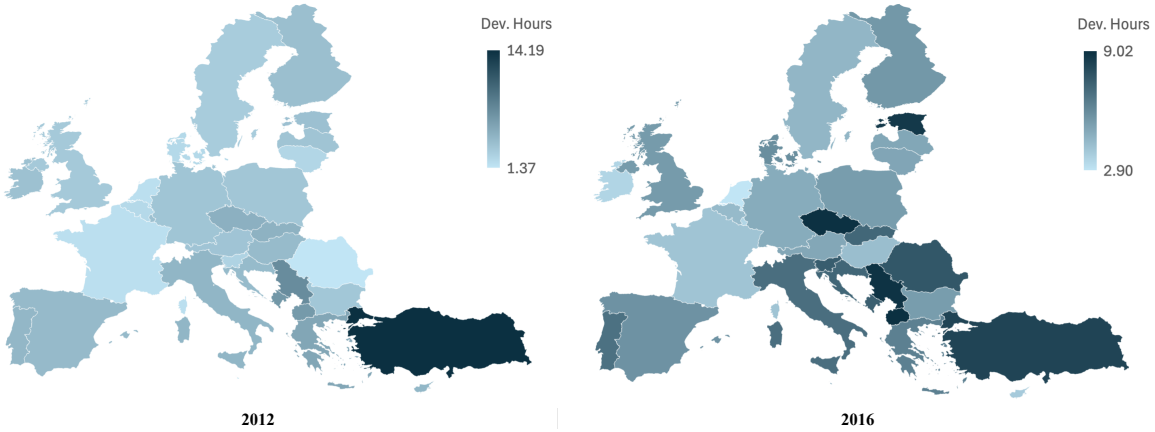
Similar to the patterns observed for actual and desired working hours, average work-hour mismatch also appears to be higher in southern European and central and eastern European countries, as shown in Figure 4.5 and Table 4.1. This pattern is visible in both waves and seems somewhat more pronounced in 2016. By construction, work-hour mismatch is defined as the difference between actual hours worked and desired working hours. Since both actual and desired working hours tend to be higher in southern European and central and eastern European countries, one might expect the resulting mismatch to be broadly similar to that in other parts of Europe. However, the descriptive evidence suggests otherwise, with average mismatch remaining higher in these countries.

Figure 4.4: Average Desired Working Hours by Years



Source: Based on the EQLS 2012 and 2016 data.

Figure 4.5: Average Work-Hour Mismatch by Years



Source: Based on the EQLS 2012 and 2016 data.

One possible interpretation is that, although workers in southern European and central and eastern European countries report a preference for longer working hours relative to other welfare regimes, actual working hours rise by an even larger margin. In other words, higher desired hours do not fully offset the increase in actual hours, resulting in larger deviations from preferred working time. This pattern may point to a more persistent gap between stated preferences and realized working hours in these contexts, rather than reflecting higher overall working time alone. While these figures are descriptive and do not support causal conclusions, they are broadly consistent with the idea that institutional features and labor market constraints may limit workers' ability to align their working hours with their preferences, particularly in southern European and central and eastern European settings.

Taken together, these descriptive results suggest that welfare regimes differ in their average levels of job satisfaction and work-hour mismatch. Although actual and desired working hours vary across regimes, the average mismatch is positive in all cases, which is consistent with over-employment on average. This gap appears especially large in central and eastern European and southern European countries, where desired working hours are relatively high but actual hours are even higher. This pattern suggests that workers in these regimes may be more likely to end up with working schedules that are longer than they would prefer.

4.2. Job Satisfaction and Working Hours Across Work-Hour Mismatch Categories

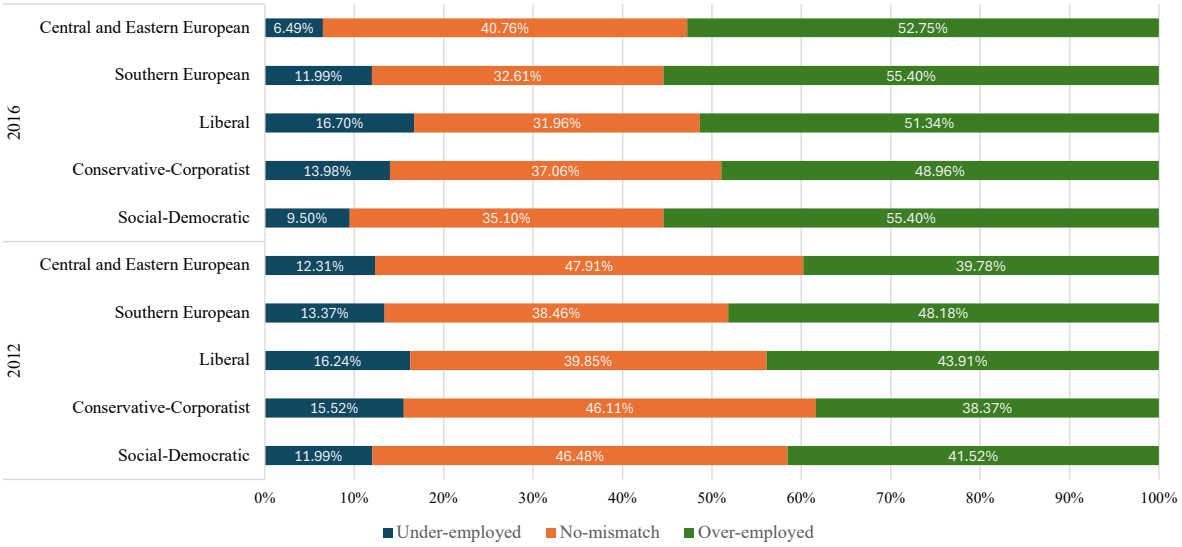
The overall patterns in working hours and job satisfaction were described in the previous section. The descriptive results suggest that, on average, work-hour mismatch tends to reflect over-employment across welfare regimes and in both survey years. This section examines the pattern in more detail using the categorical definition of work-hour mismatch in Equation 3.1, where individuals are classified as under-employed, over-employed, or in the no-mismatch category.

Figure 4.6 shows the proportions of these categories by welfare regime and survey year (country level results are reported in Table A.5). The figure suggests that the share of under-employed individuals is highest in liberal countries in both EQLS waves. This may be related to more flexible labor markets and a higher prevalence of part-time employment in this group. By contrast, the share of under-employment appears lowest in central and eastern European countries and in social-democratic countries, possibly for different reasons. As noted earlier, central and eastern European countries tend to have both higher actual and higher desired working hours, which may be linked to labor market structure. In addition, full time employment may be more common in this group, potentially reflecting institutional legacies from the socialist period. However, a lower share of under-employment in this sense does not necessarily imply better labor market outcomes overall. For example, unemployment may still be high, but unemployment

is outside the scope of the present measure of under-employment.

For social-democratic countries, the relatively low share of under-employment may be related to more extensive welfare provision and comparatively low unemployment, which could make it easier for individuals who want to work more to find suitable employment. In most regimes, the share of over-employed individuals is higher than the share reporting no-mismatch, except for conservative-corporatist and central and eastern European countries in 2012. Over-employment becomes more common in 2016 across all welfare regimes. This increase corresponds to declines in the shares of both no-mismatch and under-employment, with the largest reduction generally occurring in the no-mismatch category.

Figure 4.6: Work-Hour Mismatch by Welfare States (%)



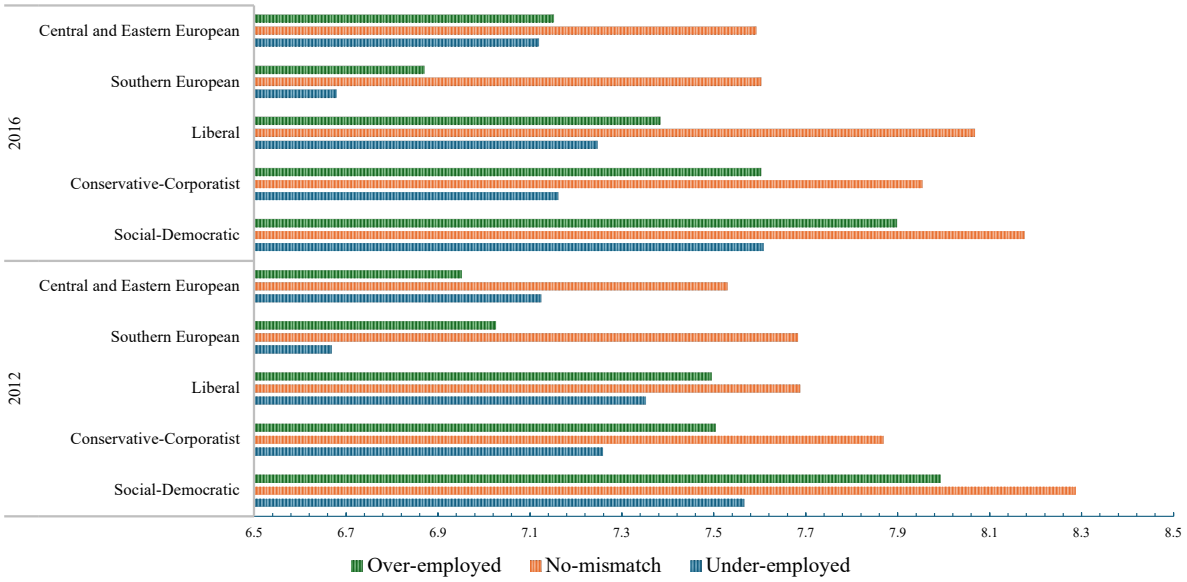
Source: Based on the EQLS 2012 and 2016 data.

One possible explanation for the relatively lower share of over-employment in 2012 is the post-crisis context, when job security may have been a stronger concern and individuals may have been less willing, or less able, to adjust their working hours. A related pattern appears in Table A.4, where the decline in average working hours is smaller than the decline in desired working hours.

Figure 4.7 shows average job satisfaction by work-hour mismatch category and welfare regime (country level values are reported in Table A.6). In both years, the highest job satisfaction in each regime is observed in the no mismatch category. This is broadly in line with discrepancy theory, which suggests that satisfaction is highest when expectations and realized outcomes are closely aligned. Compared with the no-mismatch group, over-employed individuals tend to report higher job satisfaction than under-employed individuals on average. The main exception is central and eastern European countries in 2012, where the ordering is reversed.

There are several possible explanations for this pattern. Under-employment may be perceived as temporary in some settings, particularly for younger workers, and may sometimes be viewed as a stepping stone toward better quality jobs. In addition, the income losses typically associated with under-employment may be partly mitigated by social policies, or, where state support is more limited, by family networks. Fewer working hours may also be practically valuable for some individuals because they can be more compatible with care responsibilities, even if respondents report a desire to work more hours when considering income needs.

Figure 4.7: Job Satisfaction by Work-Hour Mismatch and Welfare States



Source: Based on the EQLS 2012 and 2016 data.

Another possible explanation relates to relatively low hourly wage levels in central and eastern Europe. When wages are low, the marginal income gain from working additional hours may be limited, while the costs in terms of fatigue and reduced leisure can remain substantial. In such contexts, over-employment may bring only a modest improvement in material well-being and may be experienced more negatively than under-employment. This mechanism could help explain why under-employed workers in central and eastern European countries report slightly higher job satisfaction than over-employed workers in 2012, although the difference appears to weaken over time. Overall, these interpretations are tentative, and further checks by age, gender, and household circumstances would be useful for assessing how far these patterns generalize.

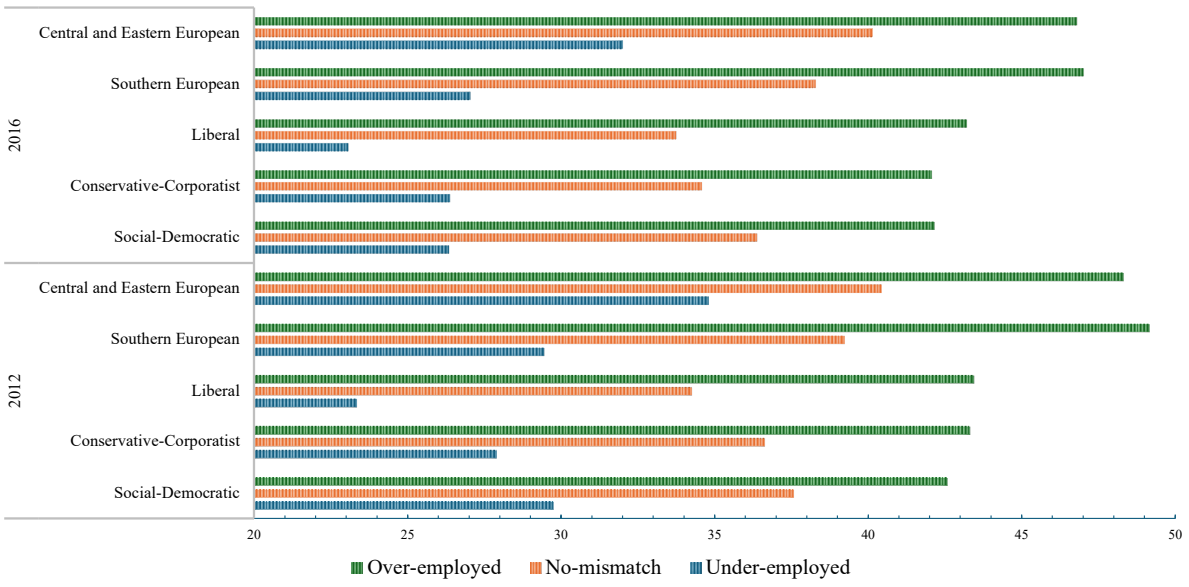
As shown above, the shares of under-employed, no-mismatch, and over-employed individuals, as well as average job satisfaction, vary across welfare regimes. To better understand how the prevalence of these

categories relates to actual and desired working hours, Figures 4.8 and 4.9 present average actual and desired working hours by work-hour mismatch category and welfare regime. Exact country values are reported in Table A.7.

Figure 4.8 suggests that the level of weekly hours at which individuals report being over-employed or under-employed differs noticeably across welfare regimes. In southern European and central and eastern European countries, individuals who report being over-employed work close to 50 hours per week in both years, whereas in the rest of Europe this figure is closer to 43 hours. In central and eastern Europe, average working hours among those classified as no-mismatch are around 41 hours, which is similar to the level observed for over-employed individuals in social-democratic countries. A similar contrast appears for the under-employed category. For example, in 2012, central and eastern European workers classified as under-employed average around 34 hours, while in liberal countries a similar level of hours is closer to the no mismatch category.

Taken together, these patterns suggest that average working hours differ across welfare regimes and that these differences may shape how individuals evaluate whether their hours are "too few" or "too many." This also implies that country specific contexts may matter for how mismatch is experienced, and that there may not be a single universal threshold of weekly hours that corresponds to under-employment or over-employment across countries.

Figure 4.8: Working Hours by Work-Hour Mismatch and Welfare States

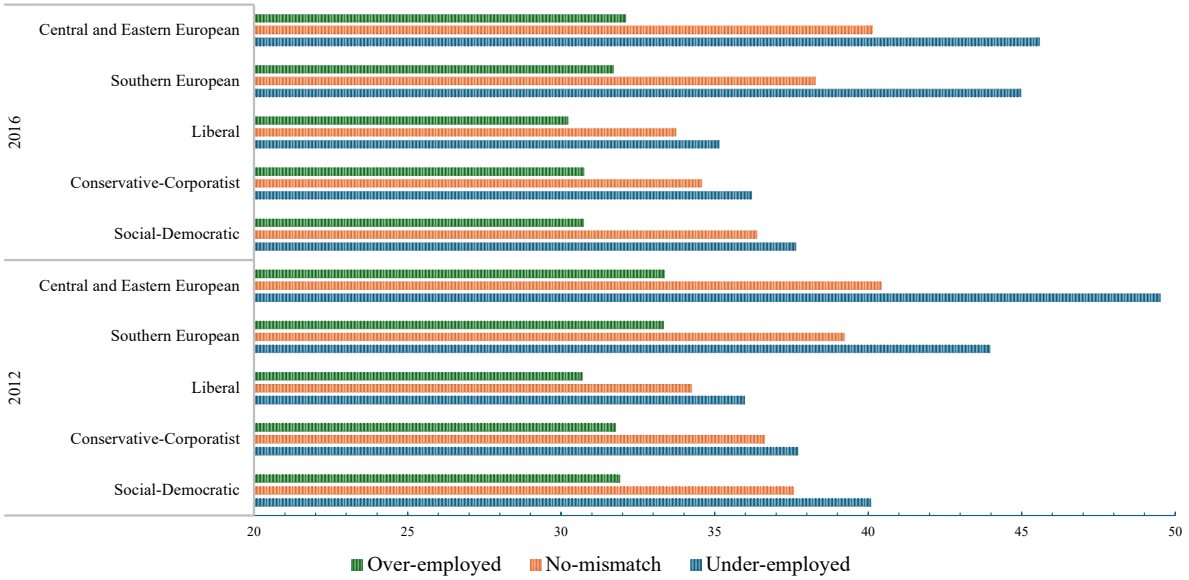


Source: Based on the EQLS 2012 and 2016 data.

Figure 4.9 presents average desired working hours by welfare regime and work-hour mismatch category.

Across welfare regimes, desired working hours are highest among under-employed individuals, followed by those in the no-mismatch category, and lowest among over-employed individuals. For example, in social-democratic countries in 2012, under-employed individuals work around 30 hours on average but report desired working hours of about 40 hours. In the same year and regime, over-employed individuals work around 42 hours on average but report desired working hours of roughly 32 hours.

Figure 4.9: Desired Working Hours by Work-Hour Mismatch and Welfare States



Source: Based on the EQLS 2012 and 2016 data.

As noted earlier, desired working hours are likely influenced by income needs, which may help explain why desired hours tend to be higher in central and eastern European and southern European countries across all mismatch categories. However, differences across welfare regimes are less pronounced within the over-employed category. For instance, in 2012, over-employed individuals in central and eastern European and southern European countries report desired working hours of around 33 hours, which is relatively close to the levels observed in other welfare regimes. One possible interpretation is that over-employment is more common among individuals with higher earnings, so economic necessity may play a smaller role in shaping desired hours within this group. As a result, cross-regime differences in desired working hours may become less visible among the over-employed.

4.3. Perceived Public Service Quality by Welfare Regime

It was discussed earlier that perceived quality of public services may be related to welfare state outcomes and job satisfaction, and it may also moderate the association between work-hour mismatch and job satisfaction. With this motivation, this section examines perceived quality of public services across

welfare regimes. The measures cover perceived quality of health services, education services, public transport, childcare services, long term care services, social housing, and the pension system. Table 4.2 reports summary statistics for each item, as well as for the index that sums the scores reported across these questions.

Table 4.2: Perceived Quality of Public Services by Welfare Regime

	2012			2016		
	Mean	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**
Social-Democratic						
Quality of public services index	47.98	8.75	975	49.21	8.80	936
Quality of health services	7.25	1.80	1,537	7.49	1.79	1,546
Quality of education services	7.66	1.53	1,503	7.73	1.57	1,510
Quality of public transport	6.61	1.87	1,470	6.87	1.83	1,479
Quality of childcare services	7.44	1.49	1,264	7.67	1.58	1,296
Quality of long-term care services	6.33	1.82	1,103	6.47	1.77	1,117
Quality of social housing	6.56	1.63	1,009	6.62	1.72	961
Quality of pension system	6.11	2.06	975	6.24	2.08	936
Conservative-Corporatist						
Quality of public services index	45.54	8.99	2,259	48.01	9.84	2,226
Quality of health services	7.11	1.78	4,345	7.55	1.78	3,748
Quality of education services	6.65	1.76	4,214	7.12	1.78	3,607
Quality of public transport	6.80	1.81	4,046	7.12	1.82	3,527
Quality of childcare services	6.67	1.85	3,186	7.19	1.78	2,935
Quality of long-term care services	6.59	1.77	2,591	6.89	1.88	2,469
Quality of social housing	6.22	1.83	2,326	6.37	1.94	2,283
Quality of pension system	5.57	2.11	2,259	5.78	2.22	2,226
Liberal						
Quality of public services index	40.16	10.08	481	42.15	11.64	444
Quality of health services	6.13	2.30	1,481	6.48	2.22	1,079
Quality of education services	6.79	1.79	1,409	7.15	1.67	1,013
Quality of public transport	6.07	2.07	1,301	6.22	2.15	962
Quality of childcare services	6.03	2.09	728	6.21	2.21	648
Quality of long-term care services	5.38	2.15	584	5.72	2.29	528
Quality of social housing	5.35	2.01	517	5.27	2.27	478
Quality of pension system	5.00	2.25	481	5.52	2.25	444
Southern European						
Quality of public services index	39.44	11.67	1,941	40.46	12.37	2,560
Quality of health services	5.98	2.21	3,581	6.24	2.26	3,879
Quality of education services	6.06	2.08	3,491	6.41	2.00	3,736
Quality of public transport	5.76	2.21	3,265	6.06	2.05	3,571
Quality of childcare services	6.12	2.14	2,588	6.27	2.03	3,114
Quality of long-term care services	5.72	2.22	2,144	5.76	2.23	2,779
Quality of social housing	5.35	2.25	1,970	5.40	2.30	2,605
Quality of pension system	4.86	2.38	1,941	4.77	2.48	2,560
Central and Eastern European						
Quality of public services index	36.30	11.60	3,490	39.55	12.15	3,774
Quality of health services	5.22	2.26	6,240	5.71	2.33	6,114
Quality of education services	5.90	2.13	6,047	6.23	2.11	5,914
Quality of public transport	5.86	2.17	5,670	6.38	2.18	5,692
Quality of childcare services	5.91	2.19	4,753	6.49	2.09	5,052
Quality of long-term care services	5.12	2.18	3,939	5.64	2.26	4,310
Quality of social housing	4.48	2.22	3,538	5.07	2.37	3,811
Quality of pension system	3.97	2.25	3,490	4.34	2.39	3,774

Source: Based on the EQLS 2012 and 2016 data. The Quality of Public Services Index is constructed by the author as shown in Table 3.2.

Responses vary across items, mainly because of item non-response and the exclusion of invalid answers. When constructing the index, respondents with missing values on the relevant items were excluded. To assess whether this affects the results, Table A.8 reports the same descriptive statistics using a complete

case sample, that is, respondents with non-missing values on all public service items. The means are very similar to those in Table 4.2, which uses item specific non-missing samples, and the ranking across welfare regimes remains unchanged. Differences are generally small, although they are somewhat larger for a few items in the liberal regime. In general, the number of observations is higher for widely used services such as health, education, and public transport, and lower for services that fewer respondents may use or feel able to evaluate, such as long term care, social housing, and childcare.

Overall, in both years, the perceived quality of public services index is highest in social-democratic countries and lowest in central and eastern European countries. The remaining regimes fall in between, with conservative-corporatist countries generally scoring above liberal and southern European countries. This ordering is visible in both the composite index and most individual service ratings. Perceptions tend to improve from 2012 to 2016 in each regime, with more noticeable increases in central and eastern European and conservative-corporatist regimes, although gaps across regimes remain substantial. Standard deviations also point to meaningful within regime variation, which is typically larger in liberal, southern European, and central and eastern European regimes than in social-democratic and conservative-corporatist regimes.

Across service domains, health and education tend to receive the highest ratings, while pensions and social housing are consistently among the lowest rated components, especially outside social-democratic regimes. Perceived quality is particularly low for pension systems in central and eastern European countries. This may be consistent with the view that pension adequacy became more difficult to maintain in the post socialist period, including challenges in keeping benefits aligned with inflation. Overall, perceived service quality tends to be higher in social-democratic and conservative-corporatist regimes. Although southern European countries often provide universal health coverage or hybrid systems combining public and private provision, perceived quality in this regime remains lower than in social-democratic, conservative-corporatist, and liberal regimes in this descriptive comparison.

When considered alongside job satisfaction, the descriptive patterns also suggest that welfare regimes with higher perceived quality of public services tend to report higher job satisfaction, although this association should be interpreted cautiously.

4.4. Descriptive Patterns for Control Variables Across Welfare Regimes

Table 4.3 summarizes the gender composition of the sample across welfare regimes and survey years, together with average working hours, desired working hours, and job satisfaction. The gender composition is most balanced in social-democratic countries. It is more uneven in southern European countries, where

the share of men is around 60 percent in both years.

Within each welfare regime, average job satisfaction levels are relatively similar for men and women. Weekly working hours are lower for women than for men in every welfare regime in both years. Considering both years, average working hours for men are lowest in the social-democratic and liberal regimes. For women, this pattern is less clear: average working hours are lowest in the liberal and conservative-corporatist regimes. The relatively low hours for women in conservative-corporatist countries may be consistent with the continued relevance of a male breadwinner model in parts of this regime.

In liberal countries, the difference in working hours between men and women is relatively large. One possible explanation is that, with a more limited role for social policy, working time patterns may be shaped more by market arrangements, which can produce wider gender differences. In addition, part-time work may be more common among women in these countries, which would lower women's average hours and widen the gap. In social-democratic countries, average working hours are lower overall and the gender gap in hours is smaller. This may be consistent with policies that support combining paid work and family responsibilities, as well as a stronger emphasis on gender equality. The gender gap is also relatively small in central and eastern European countries, although the underlying reasons may differ across contexts.

Turning to desired working hours, both men and women in all regimes report wanting to work fewer hours on average. Desired hours are lower for women than for men in absolute terms. Similar to the pattern for actual hours, the gender gap in desired hours is largest in conservative-corporatist and liberal regimes. Overall, the deviation between actual and desired hours appears smaller for women than for men.

Table 4.3 also shows how work-hour mismatch categories differ by gender. In every welfare regime, the share of over-employment rises from 2012 to 2016. This is a descriptive pattern, but it may be related to the post crisis context. In 2012, labor markets in many countries were still recovering, and individuals may have placed greater emphasis on job security, which could make them less likely to describe their hours as "too many." By 2016, as labor market conditions improved, workloads and overtime pressures may have increased in some settings. As a result, the share reporting over-employment could rise even if average working hours changed only modestly. Across all regimes, women are less likely than men to report being over-employed. In contrast, women generally report under-employment more often than men, except in central and eastern European countries.

In social-democratic countries, despite differences in actual and desired hours between men and women, the shares reporting over-employment and under-employment are relatively similar across genders, especially in 2012. In 2016, the share of women reporting under-employment increases while the share reporting

no-mismatch declines, alongside a rise in over-employment for both genders. Overall, the relatively small gender gaps in mismatch categories, working hours, and job satisfaction in this regime may be consistent with stronger gender equality objectives and the prevalence of a dual earner model.

In conservative-corporatist countries, gender differences are more pronounced. Women report lower over-employment and higher under-employment than men, which may be related to policy design and the continuing influence of a male breadwinner model. In liberal countries, a similar pattern appears: men report higher over-employment than women, alongside higher average working hours and higher desired working hours.

Table 4.3: Gender Differences in Job Satisfaction and Working Hours

	2012		2016	
	Male	**Female**	**Male**	**Female**
Social-Democratic				
Gender (%)	50.88	49.12	51.61	48.39
Job satisfaction (Mean)	8.09	8.07	8.02	7.91
Hours worked (Mean)	40.49	36.85	41.03	36.05
Desired hours (Mean)	37.04	33.94	34.93	31.72
Under-employed (%)	11.91	12.08	7.78	11.32
No-mismatch (%)	46.49	46.48	36.31	33.82
Over-employed (%)	41.61	41.43	55.91	54.86
Conservative-Corporatist				
Gender (%)	53.13	46.87	53.16	46.84
Job satisfaction (Mean)	7.71	7.55	7.69	7.65
Hours worked (Mean)	41.58	33.58	41.19	32.44
Desired hours (Mean)	37.74	31.74	35.87	29.59
Under-employed (%)	12.36	19.11	10.27	18.21
No-mismatch (%)	46.18	46.03	35.09	39.29
Over-employed (%)	41.46	34.86	54.64	42.50
Liberal				
Gender (%)	51.39	48.61	56.18	43.82
Job satisfaction (Mean)	7.51	7.59	7.65	7.49
Hours worked (Mean)	41.30	31.45	40.95	31.50
Desired hours (Mean)	37.27	28.42	35.38	28.06
Under-employed (%)	15.34	17.19	13.38	20.97
No-mismatch (%)	38.03	41.78	31.96	31.95
Over-employed (%)	46.64	41.03	54.66	47.08
Southern European				
Gender (%)	61.55	38.45	59.57	40.43
Job satisfaction (Mean)	7.20	7.28	7.00	7.21
Hours worked (Mean)	45.67	37.94	44.08	38.35
Desired hours (Mean)	38.86	34.07	36.92	33.26
Under-employed (%)	11.73	15.99	10.74	13.83
No-mismatch (%)	38.06	39.09	31.64	34.03
Over-employed (%)	50.21	44.92	57.62	52.14
Central and Eastern European				
Gender (%)	53.55	46.45	54.21	45.79
Job satisfaction (Mean)	7.26	7.24	7.24	7.43
Hours worked (Mean)	44.67	40.79	44.55	41.40
Desired hours (Mean)	39.99	37.29	37.19	35.15
Under-employed (%)	12.32	12.30	6.26	6.77
No-mismatch (%)	46.41	49.63	40.97	40.50
Over-employed (%)	41.27	38.07	52.77	52.73

Source: Based on the EQLS 2012 and 2016 data.

Differences in job satisfaction and working hour related variables by education level and welfare regime are

summarized in Table 4.4. The distribution of education levels varies across regimes. In social-democratic and central and eastern European countries, the share of individuals with lower secondary education or below is relatively small, while upper secondary and tertiary education groups make up a larger share of the sample.

Job satisfaction also varies by education and regime. In social-democratic countries, average job satisfaction among lower educated individuals is relatively high compared with other regimes, whereas in central and eastern European countries it is lower. In central and eastern Europe, job satisfaction appears to increase with education level, which may suggest better opportunities for highly educated individuals in these labor markets. A similar positive association between education and job satisfaction is also visible in southern European countries, and it appears to hold in conservative-corporatist countries as well, although the differences are not large. This pattern is less pronounced in social-democratic countries, possibly because job quality and welfare support are relatively strong even for lower educated workers.

Turning to working hours, social-democratic countries show relatively small differences in both actual and desired hours across education levels. In conservative-corporatist countries, average working hours increase with education. One possible explanation is that lower educated individuals may be more likely to be in part-time work or in positions with fewer hours. A similar pattern is present in liberal countries, where lower educated individuals also report lower average working hours.

In southern European countries, the relationship moves in the opposite direction: average working hours tend to decline as education increases. This association is visible in both years, although it is less pronounced in 2016. The higher hours among lower educated individuals in 2012 may be related to the post crisis context, when longer hours may have been a necessity for some workers. In this regime, lower educated individuals may be more likely to be in precarious jobs with long hours, rather than in part-time employment. In central and eastern European countries, average working hours are relatively high overall, but differences between lower and upper secondary education are limited. The main decline appears between upper secondary and tertiary education, which may reflect greater access to higher quality jobs among tertiary educated workers.

Comparing actual and desired working hours within welfare regimes, individuals in all education groups tend to report working more hours than they would prefer on average, which is consistent with over-employment. The distribution of work-hour mismatch categories also varies by education. Across regimes, the share in the no-mismatch category generally declines from 2012 to 2016. Given that average working hours are relatively stable while desired hours show a downward trend, this change appears to be driven

mainly by shifting preferences rather than large changes in actual hours. Differences by education are more mixed. Except for social-democratic countries, under-employment tends to be more common among those with lower education than among other education groups. In social-democratic countries, the decline in the no-mismatch share and the rise in over-employment from 2012 to 2016 is visible across education groups, and it is particularly pronounced among the lower education group. This pattern appears to coincide with a decline in desired working hours. Over-employment is also relatively common among tertiary educated individuals.

Table 4.4: Education Differences in Job Satisfaction and Working Hours

	2012			2016		
	Lower	**Upper**	**Tertiary**	**Lower**	**Upper**	**Tertiary**
Social-Democratic						
Education level (%)	7.95	45.33	46.72	7.98	38.69	53.33
Job satisfaction (Mean)	8.13	7.95	8.19	7.98	8.05	7.92
Hours worked (Mean)	39.38	38.16	39.09	39.16	37.76	39.20
Desired hours (Mean)	36.83	35.72	35.08	31.67	33.52	33.55
Under-employed (%)	8.43	16.07	8.55	10.06	13.24	6.65
No-mismatch (%)	66.24	45.61	44.16	35.11	37.35	33.39
Over-employed (%)	25.34	38.32	47.29	54.83	49.41	59.96
Conservative-Corporatist						
Education level (%)	18.62	50.65	30.73	20.83	37.50	41.68
Job satisfaction (Mean)	7.25	7.65	7.86	7.28	7.67	7.86
Hours worked (Mean)	35.92	38.08	38.70	35.95	36.74	37.99
Desired hours (Mean)	33.89	35.31	34.94	33.28	32.95	32.79
Under-employed (%)	20.22	16.14	11.34	19.69	12.61	12.44
No-mismatch (%)	43.90	46.60	45.99	40.21	41.33	31.58
Over-employed (%)	35.89	37.26	42.66	40.10	46.06	55.99
Liberal						
Education level (%)	33.34	22.15	44.51	15.59	38.82	45.59
Job satisfaction (Mean)	7.43	7.37	7.73	7.17	7.62	7.66
Hours worked (Mean)	35.81	36.18	37.29	34.29	36.24	38.12
Desired hours (Mean)	33.50	33.37	32.24	31.60	32.68	31.97
Under-employed (%)	18.04	17.28	13.96	20.80	19.37	12.89
No-mismatch (%)	45.07	41.23	34.71	36.34	36.80	26.77
Over-employed (%)	36.89	41.49	51.33	42.86	43.83	60.34
Southern European						
Education level (%)	30.34	39.34	30.32	24.59	42.99	32.42
Job satisfaction (Mean)	6.81	7.27	7.61	6.62	6.98	7.58
Hours worked (Mean)	45.60	42.64	39.93	43.37	41.34	41.07
Desired hours (Mean)	39.37	36.73	35.02	36.85	35.23	34.65
Under-employed (%)	15.58	11.85	12.79	16.50	11.54	9.21
No-mismatch (%)	37.45	38.82	39.13	30.55	33.58	32.90
Over-employed (%)	46.96	49.32	48.08	52.95	54.88	57.89
Central and Eastern European						
Education level (%)	9.19	60.47	30.34	12.19	57.49	30.32
Job satisfaction (Mean)	6.79	7.02	7.85	6.92	7.14	7.86
Hours worked (Mean)	43.02	43.51	41.54	43.32	43.87	41.57
Desired hours (Mean)	39.64	39.26	37.42	36.53	36.72	35.31
Under-employed (%)	14.99	12.46	11.24	8.67	6.23	6.11
No-mismatch (%)	46.04	47.31	49.61	43.59	39.16	42.76
Over-employed (%)	38.96	40.23	39.15	47.74	54.61	51.13

Source: Based on the EQLS 2012 and 2016 data.

Table 4.5 reports average job satisfaction and working hour measures by welfare regime and subjective urbanization category. Across all welfare regimes, the share of respondents living in open countryside is

the smallest in both years.

Within social-democratic countries, average job satisfaction, hours worked, and desired working hours show little variation across urbanization categories. In conservative-corporatist countries, a clearer pattern appears in 2016, with job satisfaction tending to be lower in more urban areas, although a similar relationship is not evident for actual or desired working hours. In liberal countries, especially in 2012, job satisfaction also tends to decline with urbanization, while working hour measures remain broadly similar across categories. In southern European countries, average working hours are higher in cities than in other areas. In central and eastern European countries, job satisfaction in 2016 is highest in cities, whereas working hour measures show no clear differences by urbanization.

Overall, differences by urbanization category appear modest compared with differences across welfare regimes. This may suggest that institutional context is more closely related to job satisfaction and working hours than spatial context. In other words, where people live may matter less than the welfare regime in which they are embedded, at least in this descriptive comparison.

Regarding mismatch categories, the share reporting no-mismatch declines from 2012 to 2016 across welfare regimes and urbanization groups. Under-employment is generally less common and does not show a clear rural-urban gradient; it also falls noticeably in central and eastern European countries by 2016. Over-employment increases in most regimes and urbanization categories, with the main exception being the medium to large town group in southern European countries.

Table 4.6 reports average working hours, desired working hours, work-hour mismatch and job satisfaction by welfare regime and occupation. Across welfare regimes, the largest share of respondents is in the skill level below 3 group. In both years, and in all regimes except the social-democratic group in 2016 and liberals in 2012, this group also reports the lowest average job satisfaction. Differences in job satisfaction across welfare regimes are most pronounced for this group, which may indicate that institutional context matters more for workers in lower skill occupations. Consistent with this interpretation, job satisfaction within the skill level below 3 group is highest in social-democratic countries and lowest in southern European and central and eastern European countries. The cross regime gap becomes smaller as skill level increases. For example, in 2016, the highest job satisfaction within skill level 4 is observed in central and eastern European countries, which may suggest that wage premia or other job related advantages are particularly important for this group, even in settings with less extensive welfare provision.

Across welfare regimes and years, average working hours are highest for skill levels 3 and 4, and these groups also show larger gaps between actual and desired hours. At the same time, their job satisfaction is

Table 4.5: Urbanization, Job Satisfaction, and Working Hours

	2012				2016			
	Open	**Small**	**Medium**	**City**	**Open**	**Small**	**Medium**	**City**
Social-Democratic								
Urbanization (%)	11.17	19.02	41.79	28.02	18.89	24.47	28.36	28.28
Job satisfaction (Mean)	8.01	8.07	8.23	7.89	8.09	8.08	7.97	7.78
Hours worked (Mean)	39.24	38.70	38.79	38.36	40.76	38.03	38.00	38.35
Desired hours (Mean)	35.80	36.04	35.47	35.09	34.57	32.64	33.03	33.57
Under-employed (%)	14.78	10.80	12.90	10.45	7.47	8.20	9.86	11.46
No-mismatch (%)	43.48	55.40	45.30	42.93	40.85	38.93	35.23	27.88
Over-employed (%)	41.73	33.81	41.80	46.63	51.68	52.87	54.91	60.66
Conservative-Corporatist								
Urbanization (%)	10.63	40.69	21.34	27.33	12.46	42.47	21.50	23.57
Job satisfaction (Mean)	7.89	7.58	7.59	7.65	8.01	7.70	7.69	7.42
Hours worked (Mean)	39.22	37.33	37.02	38.67	36.55	36.92	36.96	37.81
Desired hours (Mean)	34.66	35.05	34.76	34.99	32.55	32.75	32.65	33.72
Under-employed (%)	13.73	15.85	17.32	14.26	11.81	14.11	14.40	14.54
No-mismatch (%)	46.13	49.30	45.23	42.09	47.63	37.79	34.64	32.35
Over-employed (%)	40.14	34.85	37.45	43.65	40.56	48.10	50.96	53.11
Liberal								
Urbanization (%)	13.15	30.25	26.15	30.45	16.53	32.95	23.91	26.61
Job satisfaction (Mean)	7.75	7.69	7.57	7.35	7.85	7.70	7.23	7.58
Hours worked (Mean)	37.46	36.29	35.97	36.82	39.78	36.71	35.42	36.34
Desired hours (Mean)	34.47	32.72	33.05	32.71	33.99	31.44	31.35	32.69
Under-employed (%)	16.84	15.33	17.96	15.67	13.42	12.61	19.42	21.40
No-mismatch (%)	44.05	43.24	41.35	33.61	34.18	35.18	27.54	30.46
Over-employed (%)	39.11	41.43	40.69	50.72	52.40	52.21	53.04	48.14
Southern European								
Urbanization (%)	6.63	38.84	24.69	29.84	7.10	37.84	22.90	32.17
Job satisfaction (Mean)	7.44	7.24	7.39	7.05	7.10	7.08	7.19	7.01
Hours worked (Mean)	42.08	42.02	41.55	44.68	41.87	41.23	39.97	43.64
Desired hours (Mean)	37.73	36.68	37.23	37.13	34.62	34.03	36.93	36.21
Under-employed (%)	11.19	13.82	14.32	12.47	14.44	10.11	16.07	10.70
No-mismatch (%)	49.22	39.53	42.52	31.27	28.22	34.63	36.02	28.79
Over-employed (%)	39.59	46.65	43.16	56.26	57.34	55.26	47.91	60.51
Central and Eastern European								
Urbanization (%)	7.63	36.12	32.81	23.44	4.67	40.83	28.93	25.56
Job satisfaction (Mean)	7.50	7.17	7.33	7.20	7.08	7.28	7.34	7.44
Hours worked (Mean)	42.98	43.41	42.49	42.47	42.67	43.62	42.75	42.81
Desired hours (Mean)	38.05	39.28	38.91	37.93	35.00	37.00	35.79	35.83
Under-employed (%)	14.97	12.92	11.73	11.44	6.33	7.06	6.28	5.85
No-mismatch (%)	42.30	48.84	49.52	46.30	43.67	40.30	40.55	41.20
Over-employed (%)	42.73	38.23	38.75	42.26	49.99	52.64	53.17	52.95

Source: Based on the EQLS 2012 and 2016 data.

Note: Urbanization categories refer to open countryside; village or small town; medium to large town; and city or city suburb.

relatively high. This may indicate that higher skill occupations offer compensating advantages, such as higher pay, fringe benefits, greater autonomy, or stronger opportunities for self fulfillment, which could partly offset dissatisfaction related to longer hours or mismatch. Job satisfaction is often higher in skill level 3 and 4 than in skill level 4, which may suggest that differences in job demands and responsibilities matter, even when average hours are somewhat lower.

The share reporting no-mismatch declines in most groups from 2012 to 2016. This is consistent with the broader descriptive picture that preferences and realized hours become less closely aligned over time. In particular, over-employment becomes more common in higher skill occupations, while under-employment is more concentrated among lower skill workers.

Under-employment is more common in the skill level below 3 group in social-democratic, conservative-corporatist, and liberal regimes. A similar pattern is observed for the no-mismatch category, except in the liberal regime in 2016. In all regimes, over-employment is more prevalent in skill levels 3 and 4. This appears to be driven mainly by higher actual working hours rather than lower desired hours. Consistent with their longer hours, these higher skill groups also tend to have the lowest shares of under-employment.

Table 4.6: Occupation, Job Satisfaction, and Working Hours

	2012				2016			
	Skill < 3	**Skill = 3**	**Skill = 3 & 4**	**Skill = 4**	**Skill < 3**	**Skill = 3**	**Skill = 3 & 4**	**Skill = 4**
Social-Democratic								
Skill level (%)	50.55	16.44	9.87	23.14	46.60	11.73	11.74	29.93
Job satisfaction (Mean)	7.82	8.18	8.77	8.29	7.92	8.02	8.36	7.88
Hours worked (Mean)	37.93	38.02	45.73	37.92	37.01	38.92	44.33	38.93
Desired hours (Mean)	35.69	34.53	39.10	34.40	33.10	33.76	34.65	33.22
Under-employed (%)	16.14	9.61	4.23	8.06	13.88	8.97	3.53	5.21
No-mismatch (%)	48.45	44.09	38.57	47.22	40.22	33.04	25.25	31.28
Over-employed (%)	35.41	46.29	57.20	44.71	45.90	57.99	71.22	63.51
Conservative-Corporatist								
Skill level (%)	62.50	16.43	6.90	14.17	58.63	15.76	8.57	17.04
Job satisfaction (Mean)	7.43	7.80	8.26	8.04	7.47	7.75	8.12	8.07
Hours worked (Mean)	36.45	38.46	47.56	38.36	35.67	37.80	44.88	37.48
Desired hours (Mean)	34.53	34.88	39.07	34.70	32.63	33.83	36.13	31.77
Under-employed (%)	19.37	8.85	5.55	10.95	17.06	12.44	3.53	9.88
No-mismatch (%)	46.91	48.39	38.81	43.57	40.79	35.60	28.19	30.65
Over-employed (%)	33.72	42.75	55.64	45.48	42.14	51.96	68.27	59.48
Liberal								
Skill level (%)	53.85	9.98	12.11	24.06	54.26	11.93	14.30	19.51
Job satisfaction (Mean)	7.34	7.29	8.12	7.81	7.44	7.98	7.52	7.76
Hours worked (Mean)	34.63	38.63	42.69	36.82	35.05	37.97	40.69	38.07
Desired hours (Mean)	32.85	34.68	34.14	31.88	32.47	33.36	31.72	30.81
Under-employed (%)	21.53	12.90	4.54	11.25	23.19	12.89	5.17	9.03
No-mismatch (%)	44.39	36.12	28.63	37.40	34.97	36.72	19.97	29.60
Over-employed (%)	34.07	50.98	66.84	51.36	41.84	50.39	74.86	61.37
Southern European								
Skill level (%)	71.33	9.07	5.15	14.44	69.94	9.40	6.29	14.37
Job satisfaction (Mean)	7.07	7.20	7.82	7.84	6.89	7.18	7.57	7.82
Hours worked (Mean)	43.37	40.92	47.30	38.61	42.00	41.92	42.91	40.01
Desired hours (Mean)	37.74	36.80	37.53	33.33	35.49	34.93	39.46	33.76
Under-employed (%)	13.99	14.12	4.39	12.83	12.82	8.85	17.71	7.28
No-mismatch (%)	38.68	45.36	30.52	36.52	33.62	28.75	22.99	34.78
Over-employed (%)	47.33	40.51	65.10	50.66	53.55	62.40	59.29	57.94
Central and Eastern European								
Skill level (%)	67.26	8.94	6.37	17.43	67.26	10.89	6.26	15.59
Job satisfaction (Mean)	6.89	7.62	8.29	8.07	7.03	7.57	8.32	8.08
Hours worked (Mean)	43.11	42.87	46.94	40.38	43.55	42.09	46.64	40.48
Desired hours (Mean)	39.23	40.13	38.05	36.46	36.77	35.69	36.06	34.81
Under-employed (%)	12.95	12.98	9.59	10.56	6.42	5.76	4.26	8.48
No-mismatch (%)	47.63	50.51	38.87	51.13	41.34	41.48	32.01	41.23
Over-employed (%)	39.43	36.51	51.55	38.32	52.25	52.76	63.73	50.29

Source: Based on the EQLS 2012 and 2016 data.

Table 4.7 reports summary statistics for the key variables by welfare regime and contract type. Permanent contracts account for the largest share in every welfare regime. Across regimes, the share of permanent contracts declines from 2012 to 2016, and the share of fixed-term contracts also falls over the same period. In both years, permanent contracts are least common in southern European and liberal regimes

and most common in social-democratic countries, which may be consistent with stronger job security in the social-democratic regime. Fixed-term contracts also appear less prevalent in conservative-corporatist and social-democratic countries than in the other regimes.

In social-democratic countries, differences in job satisfaction and working hours across contract types are relatively small, suggesting more similar conditions across contract groups. In the other regimes, working hour patterns are more mixed. In particular, respondents in the "other" and "no written contract" categories report relatively long working hours, often above 45 hours in southern European and central and eastern European countries. Across all regimes and contract types, desired working hours are lower than actual working hours on average, with larger gaps in southern European and central and eastern European regimes.

In most welfare regimes, under-employment is least common among permanent workers compared to fixed-term workers, although there are some exceptions, such as central and eastern European regimes in 2012, where the lowest under-employment is observed among those without a written contract. In many regimes, fixed-term workers report the highest under-employment, which is consistent with the idea that temporary jobs may offer insufficient hours. By contrast, over-employment is more common among permanent workers and increases from 2012 to 2016 in every regime. Over the same period, the share reporting no-mismatch generally declines across contract types and regimes, suggesting a weaker alignment between actual and preferred hours over time. Taken together, these descriptive results point to a dual pattern. Temporary contracts are more often associated with insufficient hours, while permanent employment, although more secure, is increasingly associated with excess hours.

Table 4.8 reports the distribution of employment by sector, together with average job satisfaction, work-hour mismatch and actual and desired working hours. Across all welfare regimes, the private sector accounts for a larger share of employment than the public sector. The public sector share is highest in social-democratic countries and lowest in southern European countries.

Average job satisfaction is generally higher in the public sector across welfare regimes, with the exception of the liberal regime in 2016. Job satisfaction is highest in social-democratic countries in both sectors. Working hours vary both across welfare regimes and between sectors. In every regime, public sector employees report fewer weekly hours than private sector employees. The gap between sectors is around three to five hours, and it appears largest in southern European and central and eastern European countries.

As in previous tables, desired working hours are lower than actual working hours on average in both sectors and in every welfare regime. Desired hours are also lower in the public sector than in the private

Table 4.7: Contract Type, Job Satisfaction, and Working Hours

	2012				2016			
	Perma-nent	Fixed-term	No written	Other	Perma-nent	Fixed-term	No written	Other
Social-Democratic								
Contract type (%)	82.14	9.18	2.07	6.61	78.38	7.92	0.94	12.76
Job satisfaction (Mean)	8.05	8.01	8.15	8.47	7.94	7.86	8.02	8.18
Hours worked (Mean)	38.78	36.13	40.12	40.87	38.88	34.96	30.62	39.86
Desired hours (Mean)	35.43	34.97	37.17	36.91	33.70	31.93	30.73	32.44
Under-employed (%)	10.29	24.09	12.75	16.18	7.62	21.51	28.33	12.14
No-mismatch (%)	47.18	42.48	56.45	40.33	36.66	30.11	49.68	27.57
Over-employed (%)	42.54	33.44	30.81	43.49	55.72	48.38	21.99	60.29
Conservative-Corporatist								
Contract type (%)	78.81	8.03	4.95	8.22	76.13	7.28	0.76	15.82
Job satisfaction (Mean)	7.66	7.24	7.82	7.70	7.67	7.09	7.23	7.97
Hours worked (Mean)	37.37	33.96	40.76	44.24	36.54	34.49	29.24	41.30
Desired hours (Mean)	34.42	34.47	37.00	39.01	32.64	33.39	28.82	34.32
Under-employed (%)	13.76	31.75	10.27	19.72	12.32	27.99	27.90	14.88
No-mismatch (%)	47.20	39.63	57.51	35.14	39.47	30.00	30.93	29.02
Over-employed (%)	39.04	28.63	32.22	45.14	48.21	42.01	41.17	56.10
Liberal								
Contract type (%)	67.11	13.08	11.43	8.38	62.57	9.59	7.06	20.78
Job satisfaction (Mean)	7.48	7.76	7.63	7.66	7.56	7.52	7.43	7.73
Hours worked (Mean)	36.89	36.72	34.28	36.19	37.27	33.80	31.94	38.46
Desired hours (Mean)	33.00	34.08	32.35	31.78	31.99	31.24	33.30	32.77
Under-employed (%)	14.04	12.77	27.56	23.83	12.12	21.99	34.03	22.20
No-mismatch (%)	39.99	48.31	31.43	37.07	32.14	37.86	33.67	28.10
Over-employed (%)	45.98	38.92	41.01	39.09	55.75	40.15	32.30	49.70
Southern European								
Contract type (%)	56.78	11.23	21.14	10.85	54.68	10.39	11.00	23.93
Job satisfaction (Mean)	7.39	6.87	7.06	7.12	7.27	6.87	6.67	6.95
Hours worked (Mean)	41.20	39.67	46.59	46.06	39.78	39.61	41.85	47.18
Desired hours (Mean)	36.31	37.32	37.69	39.14	34.72	34.72	34.99	37.61
Under-employed (%)	11.10	23.75	12.57	16.03	9.58	16.62	19.41	12.06
No-mismatch (%)	41.91	41.07	32.29	29.67	36.80	35.30	25.87	24.95
Over-employed (%)	46.99	35.18	55.14	54.30	53.62	48.08	54.72	62.99
Central and Eastern European								
Contract type (%)	77.11	12.91	4.48	5.51	74.44	11.20	0.97	13.40
Job satisfaction (Mean)	7.32	6.91	7.08	7.15	7.41	6.72	5.97	7.47
Hours worked (Mean)	42.52	42.00	47.44	45.93	42.30	43.55	48.23	46.86
Desired hours (Mean)	38.65	38.74	40.13	38.77	36.14	36.66	36.74	36.53
Under-employed (%)	11.66	16.21	13.73	11.09	6.22	7.95	5.85	6.82
No-mismatch (%)	50.00	45.28	28.50	40.62	43.42	34.84	25.89	31.95
Over-employed (%)	38.34	38.50	57.77	48.29	50.36	57.21	68.26	61.23

Source: Based on the EQLS 2012 and 2016 data.

sector. From 2012 to 2016, average working hours remain fairly stable across regimes in both sectors. Desired hours are also relatively stable in the public sector, while in the private sector they decline by about two to three hours across welfare regimes.

Mismatch patterns also differ by sector. Private sector workers are more likely to report longer hours and higher over-employment, and this tendency appears stronger in 2016. At the same time, the share reporting no-mismatch generally declines across sectors in most regimes between 2012 and 2016, suggesting weaker alignment between actual and desired hours over time. The "other" category is small and sometimes shows extreme values, so these results should be interpreted cautiously. Overall, the descriptive evidence suggests that sector differences matter: compared with public employment, private sector work is associated with

longer hours and a higher likelihood of over-employment, while public sector workers tend to report slightly higher job satisfaction and somewhat lower mismatch.

Table 4.8: Sector of Employment, Job Satisfaction, and Working Hours

	2012			2016		
	Public	**Private**	**Other**	**Public**	**Private**	**Other**
Social-Democratic						
Sector (%)	36.26	61.57	2.17	38.55	58.66	2.80
Job satisfaction (Mean)	8.16	8.05	7.59	7.92	7.99	8.07
Hours worked (Mean)	36.92	39.82	36.74	36.69	40.16	32.82
Desired hours (Mean)	33.91	36.34	38.93	32.55	34.04	30.88
Under-employed (%)	11.49	11.43	36.46	10.81	8.20	18.52
No-mismatch (%)	46.88	46.49	39.69	34.58	35.59	32.01
Over-employed (%)	41.63	42.08	23.85	54.61	56.21	49.46
Conservative-Corporatist						
Sector (%)	29.10	66.71	4.18	31.00	64.25	4.75
Job satisfaction (Mean)	7.82	7.54	7.77	7.74	7.63	7.81
Hours worked (Mean)	35.47	38.81	38.56	35.37	37.80	38.64
Desired hours (Mean)	32.87	35.91	33.70	31.11	33.71	34.28
Under-employed (%)	16.22	15.39	12.84	13.68	14.43	9.95
No-mismatch (%)	48.42	45.32	42.71	37.04	36.98	38.23
Over-employed (%)	35.37	39.29	44.45	49.28	48.59	51.82
Liberal						
Sector (%)	32.48	63.17	4.34	32.20	63.65	4.15
Job satisfaction (Mean)	7.61	7.51	7.69	7.41	7.69	7.18
Hours worked (Mean)	34.62	37.42	37.49	34.95	37.53	40.26
Desired hours (Mean)	30.34	34.26	33.78	30.46	32.95	33.60
Under-employed (%)	12.09	17.72	25.62	16.99	16.57	16.55
No-mismatch (%)	41.17	39.11	40.81	34.46	31.26	23.17
Over-employed (%)	46.73	43.17	33.57	48.55	52.17	60.28
Southern European						
Sector (%)	23.81	72.12	4.07	19.41	75.75	4.84
Job satisfaction (Mean)	7.64	7.11	7.06	7.55	7.24	7.07
Hours worked (Mean)	38.67	43.83	46.14	40.73	44.23	40.95
Desired hours (Mean)	35.11	37.64	37.25	35.27	36.76	34.45
Under-employed (%)	13.55	13.03	18.35	11.84	11.26	24.06
No-mismatch (%)	48.04	36.45	17.94	42.65	30.69	22.40
Over-employed (%)	38.41	50.52	63.71	45.51	58.06	53.54
Central and Eastern European						
Sector (%)	31.62	63.62	4.76	29.45	67.70	2.85
Job satisfaction (Mean)	7.69	7.05	7.06	7.41	6.72	5.97
Hours worked (Mean)	40.37	44.10	42.98	42.30	43.55	48.23
Desired hours (Mean)	37.91	39.14	38.81	36.14	36.66	36.74
Under-employed (%)	13.99	11.40	13.28	8.24	5.33	16.07
No-mismatch (%)	54.83	44.78	43.76	48.66	37.97	25.41
Over-employed (%)	31.18	43.82	42.96	43.10	56.71	58.52

Source: Based on the EQLS 2012 and 2016 data.

Table 4.9 reports working hour related variables and job satisfaction by work-family balance. Across all welfare regimes, a larger share of respondents report a good work-family balance. This share is highest in social-democratic countries and lowest in southern European countries. As expected, job satisfaction is higher among those reporting a good work-family balance. Within the good balance group, average job satisfaction is highest in social-democratic countries and lowest in southern European and central and eastern European countries. A notable feature is that the job satisfaction gap between the "well" and "not well" groups is larger than the gaps observed for most other control variables.

Average working hours are also higher among those reporting a poor work-family balance. Even in social-democratic countries, which have relatively low average working hours overall, the "not well" group reports more than 42 hours per week on average. This figure is higher in southern European and central and eastern European countries, which suggests that perceived balance is closely linked to working time. At the same time, even though working hours are relatively long, job satisfaction remains higher in social-democratic countries. This may reflect that welfare policies and institutional supports help reduce the negative effects of long working hours. Among those reporting a good balance, average working hours are lowest in liberal countries and highest in central and eastern European countries.

Although working hours differ clearly by work-family balance, differences in desired hours are smaller, typically around two hours or less. In southern European and central and eastern European countries, the gap in desired working hours between balance groups is especially small, and in some cases it nearly disappears.

Mismatch categories also differ by work-family balance. Over-employment appears to be more common among those reporting poor balance. In 2016, the share of over-employed individuals in the "not well" group is high in every welfare regime, while it is lower among those reporting good balance. By contrast, the no-mismatch category is consistently more common among those with good balance, which suggests that working closer to one's preferred hours may be related to better perceived balance.

Under-employment is less common overall, but in several regimes it is more frequent among those reporting good balance. This could reflect situations where work life is easier to manage partly because individuals are working fewer hours, even if they would prefer to work more when considering income needs. Taken together, the table points to a close descriptive association between work-family balance and working time outcomes: poorer balance tends to coincide with longer working hours and higher over-employment, and it is also associated with lower job satisfaction across welfare regimes.

Table 4.10 reports average job satisfaction, actual working hours, and desired working hours by welfare regime and chronic illness status, and it also shows the sample composition for this variable. In most regimes and both years, the majority of respondents report not having a diagnosed chronic illness. The share reporting a chronic illness is highest in social-democratic countries, which may partly reflect differences in access to health care, diagnosis practices, or reporting, rather than differences in underlying health alone.

As expected, average job satisfaction is higher among individuals without a chronic health problem. In terms of actual working hours, respondents with a chronic illness typically work about two hours less per week than those without a chronic illness. One exception appears in southern Europe in 2016, where

Table 4.9: Work-Family Balance, Job Satisfaction, and Working Hours

	2012		2016	
	Not well	**Well**	**Not well**	**Well**
Social-Democratic				
Work-Family Balance (%)	11.68	88.32	15.07	84.93
Job satisfaction (Mean)	7.25	8.19	7.42	8.07
Hours worked (Mean)	43.02	38.13	42.60	38.01
Desired hours (Mean)	36.09	35.45	33.90	33.30
Under-employed (%)	14.07	11.75	9.01	9.33
No-mismatch (%)	27.70	48.93	23.81	37.28
Over-employed (%)	58.23	39.32	67.18	53.38
Conservative-Corporatist				
Work-Family Balance (%)	17.30	82.70	17.63	82.37
Job satisfaction (Mean)	6.97	7.78	6.91	7.83
Hours worked (Mean)	42.90	36.77	42.32	35.98
Desired hours (Mean)	36.54	34.60	34.62	32.60
Under-employed (%)	12.25	16.20	10.71	14.72
No-mismatch (%)	28.98	49.71	19.21	40.84
Over-employed (%)	58.77	34.09	70.08	44.45
Liberal				
Work-Family Balance (%)	18.37	81.63	21.67	78.33
Job satisfaction (Mean)	6.47	7.79	6.70	7.82
Hours worked (Mean)	44.71	34.67	43.84	34.86
Desired hours (Mean)	36.09	32.26	33.46	31.82
Under-employed (%)	8.47	17.93	9.03	18.86
No-mismatch (%)	24.95	43.20	17.22	36.10
Over-employed (%)	66.58	38.87	73.75	45.04
Southern European				
Work-Family Balance (%)	30.76	69.24	29.60	70.40
Job satisfaction (Mean)	6.70	7.47	6.48	7.34
Hours worked (Mean)	48.05	40.25	47.69	39.26
Desired hours (Mean)	37.42	36.81	35.95	35.25
Under-employed (%)	9.21	15.26	8.12	13.59
No-mismatch (%)	25.58	44.23	16.25	39.52
Over-employed (%)	65.21	40.51	75.63	46.88
Central and Eastern European				
Work-Family Balance (%)	24.08	75.92	24.37	75.63
Job satisfaction (Mean)	6.45	7.51	6.63	7.55
Hours worked (Mean)	47.41	41.40	47.75	41.55
Desired hours (Mean)	38.60	38.80	36.88	36.08
Under-employed (%)	10.36	12.90	4.80	7.09
No-mismatch (%)	25.42	55.23	21.00	47.42
Over-employed (%)	64.22	31.87	74.20	45.49

Source: Based on the EQLS 2012 and 2016 data.

individuals with a chronic illness report higher working hours than those without. Desired working hours are also generally lower among those with a chronic illness, although the difference is modest, usually around one to two hours across welfare regimes. Again, southern Europe in 2016 stands out, desired hours are slightly higher among those with a chronic illness.

Across welfare regimes, the share reporting over-employment increases from 2012 to 2016 for both groups. This change coincides with a decline in desired working hours, while average working hours change less. Over the same period, the share reporting no-mismatch falls, suggesting weaker alignment between actual and desired hours. Under-employment is less common, but it is higher among those with a chronic illness. This may reflect barriers to obtaining sufficient hours or finding suitable jobs.

Table 4.10: Chronic Illness, Job Satisfaction, and Working Hours

	2012		2016	
	Yes	**No**	**Yes**	**No**
Social-Democratic				
Chronic illness (%)	29.88	70.12	29.31	70.69
Job satisfaction (Mean)	8.01	8.11	7.68	8.09
Hours worked (Mean)	37.74	39.11	36.85	39.35
Desired hours (Mean)	34.27	36.06	31.90	33.98
Under-employed (%)	12.74	11.79	13.27	7.94
No-mismatch (%)	44.97	47.14	31.52	36.56
Over-employed (%)	42.30	41.07	55.22	55.51
Conservative-Corporatist				
Chronic illness (%)	20.04	79.96	21.75	78.25
Job satisfaction (Mean)	7.30	7.72	7.25	7.79
Hours worked (Mean)	36.48	38.16	36.32	37.33
Desired hours (Mean)	34.23	35.10	31.45	33.36
Under-employed (%)	19.63	14.45	15.17	13.59
No-mismatch (%)	45.71	46.24	31.41	38.65
Over-employed (%)	34.66	39.31	53.42	47.76
Liberal				
Chronic illness (%)	20.76	79.24	19.48	80.52
Job satisfaction (Mean)	7.29	7.62	7.39	7.63
Hours worked (Mean)	35.26	36.83	36.75	36.82
Desired hours (Mean)	31.60	33.31	31.08	32.44
Under-employed (%)	17.16	16.03	16.20	16.83
No-mismatch (%)	37.67	40.50	25.19	33.59
Over-employed (%)	45.17	43.47	58.62	49.58
Southern European				
Chronic illness (%)	9.35	90.65	9.98	90.02
Job satisfaction (Mean)	6.99	7.26	6.79	7.12
Hours worked (Mean)	41.67	42.80	44.30	41.47
Desired hours (Mean)	36.69	37.04	36.37	35.34
Under-employed (%)	17.12	12.95	12.86	11.90
No-mismatch (%)	39.26	38.38	30.34	32.85
Over-employed (%)	43.62	48.67	56.80	55.25
Central and Eastern European				
Chronic illness (%)	14.80	85.20	14.99	85.01
Job satisfaction (Mean)	7.00	7.30	7.15	7.36
Hours worked (Mean)	41.67	43.09	42.11	43.29
Desired hours (Mean)	37.79	38.91	35.43	36.39
Under-employed (%)	15.34	11.76	8.53	6.08
No-mismatch (%)	44.51	48.55	41.69	40.69
Over-employed (%)	40.14	39.70	49.79	53.23

Source: Based on the EQLS 2012 and 2016 data.

Table 4.11 reports summary statistics for the continuous variables used in the analysis. Although average working hours and job satisfaction were presented in the previous section, they are reported again here to facilitate comparison across welfare regimes.

Household size is broadly similar across welfare regimes. It is somewhat higher in southern European and central and eastern European countries in 2012, but in 2016 it declines and becomes more comparable across regimes.

Item non-response in commuting time and income sufficiency leads to smaller sample sizes for these variables. Average age is about 40 across the sample. It is highest in social-democratic countries in both years and lowest in southern European countries.

Commuting time is top coded at the 99th percentile to limit the influence of extreme values. For example, very high reported times, such as 720 minutes per day, are replaced with 180 minutes, which corresponds to the 99th percentile in the sample. Average commuting time is lower in southern European and central and eastern European countries. However, differences across welfare regimes are relatively small, with the gap between the highest and lowest average values being at most about 12 minutes per day.

Table 4.11: Summary Statistics of Continuous Variables

	2012			2016		
	Mean	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**
Social-Democratic						
Job satisfaction	8.13	1.72	1,545	8.01	1.73	1,555
Hours worked	38.53	9.50	1,545	38.33	10.95	1,555
Preferred working hours	35.21	9.00	1,545	33.12	9.91	1,555
Household size	2.61	1.26	1,545	2.66	1.31	1,555
Age	44.35	11.87	1,545	46.25	12.51	1,555
Commute time (minutes)	46.21	36.25	1,480	44.85	37.63	1,540
Income sufficiency	2.48	1.07	1,537	2.15	1.13	1,551
Conservative-Corporatist						
Job satisfaction	7.65	1.91	4,377	7.61	1.95	3,769
Hours worked	37.26	11.44	4,377	36.56	11.17	3,769
Preferred working hours	34.40	10.35	4,377	32.45	9.98	3,769
Household size	2.68	1.30	4,377	2.60	1.31	3,769
Age	42.10	10.85	4,377	42.99	11.17	3,769
Commute time (minutes)	35.31	32.09	4,099	41.45	37.13	3,737
Income sufficiency	2.95	1.15	4,347	2.73	1.18	3,754
Liberal						
Job satisfaction	7.64	2.09	1,496	7.58	1.96	1,093
Hours worked	35.81	13.88	1,496	36.56	13.10	1,093
Preferred working hours	32.10	11.14	1,496	31.83	10.54	1,093
Household size	2.72	1.31	1,496	2.74	1.36	1,093
Age	42.97	11.87	1,496	42.92	12.01	1,093
Commute time (minutes)	45.45	40.04	1,378	47.13	42.19	1,086
Income sufficiency	3.06	1.21	1,488	2.71	1.18	1,086
Southern European						
Job satisfaction	7.24	2.10	3,624	7.09	1.94	3,911
Hours worked	42.01	14.10	3,624	40.73	13.61	3,911
Preferred working hours	36.55	11.13	3,624	34.66	11.61	3,911
Household size	3.03	1.36	3,624	2.74	1.25	3,911
Age	40.34	10.91	3,624	41.51	11.20	3,911
Commute time (minutes)	34.62	32.87	3,437	35.76	30.40	3,850
Income sufficiency	3.47	1.16	3,576	3.42	1.15	3,892
Central and Eastern European						
Job satisfaction	7.27	2.24	6,348	7.29	2.21	6,165
Hours worked	42.60	10.39	6,348	42.90	10.05	6,165
Preferred working hours	38.30	11.04	6,348	35.95	11.05	6,165
Household size	3.02	1.32	6,348	2.77	1.31	6,165
Age	41.09	11.22	6,348	43.22	11.62	6,165
Commute time (minutes)	38.02	32.83	5,940	35.76	31.39	6,026
Income sufficiency	3.63	1.12	6,266	3.38	1.13	6,099

Source: Based on the EQLS 2012 and 2016 data.

Income sufficiency is measured on a 1 to 6 scale and is reverse coded so that higher values indicate greater difficulty in making ends meet. southern European and central and eastern European countries report the highest average difficulty, while social-democratic countries report lower difficulty on average. This pattern may reflect differences in wage levels and job stability across regimes, as well as differences in welfare provision and in how public services help households manage everyday expenses. In settings

where incomes are lower or more uncertain, households may be more likely to report financial strain, even among those who are employed.

5. EMPIRICAL ANALYSIS

5.1. Work-Hour Mismatch and Job Satisfaction

In this section, Hypothesis 1 is examined. To assess the robustness of the association between work-hour mismatch and job satisfaction, ten OLS specifications corresponding to Equations 3.4 through 3.13 are estimated, and the results are reported in Table 5.1. The stepwise inclusion of controls is intended to evaluate whether the estimated association between work-hour mismatch and job satisfaction is stable across alternative specifications. [1]

H1-a: *Both under-employment and over-employment have a negative effect on job satisfaction.*

H1-b: *The effect of under-employment is expected to be stronger than that of over-employment.*

In all specifications, under-employment and over-employment are normalized as described in Equation 3.3. Standard errors are clustered at the country level because respondents are nested within countries, so the regression errors may be correlated within countries. Individuals in the same country share institutional and macroeconomic conditions such as labor market regulations, common shocks, and country specific survey implementation,that may affect job satisfaction but are not fully captured by the controls. Clustering at the country level adjusts inference for this within country dependence and remedies the risk of overstating statistical significance. Survey weights provided by the data producers are also applied. Given the repeated cross-sectional nature of the data, the estimates are interpreted as associations rather than causal effects. As an additional sensitivity check, standard errors clustered at the welfare regime level are reported in Table B.9. Because the number of welfare regime clusters is small, inference at this level should be interpreted cautiously; as expected, these standard errors tend to be larger and statistical significance is weaker in some specifications, although the main coefficients remain statistically significant.

The first specification is a baseline model that includes only the work-hour mismatch measures, along with country and year fixed effects. In this sense, the estimated coefficients for under-employment and

[1] As discussed earlier, although Türkiye is classified within the southern European welfare state group by Gal (2010) and Buğra and Keyder (2006). Ling et al. (2025) groups it with central and eastern Europe, with limited discussion of the basis for this classification. In addition, as noted in the descriptive analysis, reported working hours in Türkiye decline sharply between 2012 and 2016, a pattern that is not supported by administrative statistics and may indicate measurement or data collection issues. To assess whether the Türkiye sample materially affects the estimates, the main analyses are also repeated excluding Türkiye, with results reported in Table B.2. Excluding Türkiye changes the magnitude of the coefficients, but their direction and statistical significance remain broadly similar.

over-employment can be interpreted as baseline associations. Model 10 includes the full controls, so the coefficients are conditional on the covariates included in the specification.

A brief inspection of Table 5.1 suggests that Hypothesis 1a is supported across all specifications: work-hour mismatch is negatively associated with job satisfaction. With respect to Hypothesis 1b, the under-employment association is generally larger in magnitude than the over-employment association.[2] The main exception is Model 7, where income sufficiency is added. This pattern is consistent with the idea that under-employment and over-employment may operate through different channels. Under-employment may be more closely tied to job dissatisfaction through earnings and perceived income adequacy, whereas over-employment may involve a tradeoff between higher earnings and reduced work-family balance (Sturman and Walsh, 2014). When income sufficiency is included in Model 7, it appears to account for part of the under-employment association, reducing its magnitude relative to earlier specifications and making the over-employment coefficient comparatively larger. This ordering reverses again in Model 8 after adding work-family balance. Controlling for work-family balance has little effect on the under-employment coefficient but attenuates the over-employment coefficient, so the under-employment association again becomes larger in magnitude, which is consistent with the proposed mechanisms.

The estimated effects of the control variables are broadly in line with standard expectations and prior evidence. For example, in Model 2, which adds sociodemographic characteristics, the results indicate a robust U-shaped relationship between age and job satisfaction, with the minimum occurring around ages 36 to 41, depending on the specification. This pattern is consistent with Clark et al. (1996), who reports a U-shaped age profile in job satisfaction even after controlling for a wide range of covariates, with the minimum typically occurring in the early to mid-30s. In the present specification, the age coefficient is scaled to correspond to a ten year increase in age; stated on a one year basis, the implied marginal effect is small, while the turning point implied by the quadratic form remains broadly comparable.

With respect to gender, no statistically significant association is observed in most specifications. Only in the final model women report higher job satisfaction than men. Because this specification includes job-related fatigue, the results suggest that once fatigue is accounted for, women report slightly higher job

[2] To assess heterogeneity, the models are estimated separately by gender (Females: Table B.12; Males: Table B.13), education (Lower secondary and below: Table B.14; Upper secondary or post-secondary: Table B.15; Tertiary: Table B.16), subjective urbanization (Open countryside: Table B.17; Village/small town: Table B.18; Medium to large town: Table B.19; City or city suburb: Table B.20), survey wave (2012: Table B.21; 2016: Table B.22), and chronic illness status (Yes: Table B.23; No: Table B.24). Results are discussed below the respective tables. Heterogeneity across these groups is plausible because these characteristics are related to both job satisfaction and the likelihood of experiencing a work-hour mismatch. The under-employment estimates should be interpreted with particular caution. Under-employed workers represent only about 12% of the full sample. When the sample is split into subgroups, the number of under-employed observations in some cells can become quite small. With few cases, the under-employment coefficient is estimated less precisely. As a result, apparent differences in under-employment effects across subgroups may reflect sampling variation rather than systematic heterogeneity.

satisfaction than otherwise comparable men, although the magnitude of the difference is modest.

Education is positively associated with job satisfaction. Using "lower secondary or below" as the reference category, individuals with "upper secondary or post secondary" education report higher job satisfaction, and those with "tertiary" education report an even higher level of job satisfaction. This pattern is consistent with the view that higher education is associated with better earnings prospects, access to more desirable or prestigious jobs, and greater opportunities for self accomplishment (Oreopoulos and Salvanes, 2011).

Household size is positively associated with job satisfaction across all specifications, although the estimated effect is small. This may reflect greater economic and social support in larger households, which could help buffer work related strains (Pohlig et al., 2022). For instance, financial stress linked to under-employment may be partly offset when other household members contribute to household income, and time pressures associated with over-employment may be easier to manage when care and domestic responsibilities can be shared.

Level of urbanization is also associated with job satisfaction. Using "open countryside" as the reference category, respondents living in more urbanized areas report lower job satisfaction on average. This pattern is consistent with the idea of an urban paradox, where greater opportunities in cities may be offset by factors such as higher living costs, longer commutes, and congestion, which can reduce subjective well-being (Burger et al., 2020).

After sociodemographic controls are added in Model 2, the estimated association between work-hour mis-match and job satisfaction weakens, suggesting that part of the baseline relationship reflects compositional differences captured by these covariates. The over-employment coefficient changes very little, indicating that the over-employment association is largely robust to controls for age, gender, education, and household size. By contrast, the under-employment coefficient declines more, suggesting that sociodemographic characteristics account for a larger share of the association between under-employment and job satisfaction in this sample.

In Model 3, occupation is added to the specification alongside the sociodemographic controls. The reference category is the highest occupational skill level (skill level 4). Relative to this group, respondents in "skill levels below 3" and in "skill level 3" report lower job satisfaction, while those in "skill level 3 and 4" report higher job satisfaction. This pattern remains broadly similar in the subsequent specifications. These results are generally consistent with prior evidence that higher occupational status is associated with better job quality, although the relationship often weakens once additional individual and job related characteristics are introduced (Pichler and Wallace, 2009; Arjona Perez et al., 2010).

At the same time, “skill level 3” appears to be associated with higher job satisfaction than “skill level 4”, which is also reflected in the descriptive statistics reported in Table 4.6. One plausible interpretation is that higher skill jobs offer advantages such as higher pay, fringe benefits, and greater autonomy, but they may also involve greater responsibility and work pressure, which could help explain why job satisfaction is not highest in “skill level 4”.

Although the change is modest, the under-employment and over-employment coefficients become slightly more negative after adding occupation controls, which is consistent with occupation being related to both mismatch and job satisfaction. As Table 4.6 suggests, over-employment is more common in the “skill 3 and 4” group, where average job satisfaction is also higher. Without controlling for occupation, this more favorable occupational composition can partly offset the mismatch penalty. Once occupation is held constant, that offset is reduced, and the estimated association between work-hour mismatch and job satisfaction moves further from zero.

In Model 4, contract type is introduced, with “fixed-term contracts” as the reference category. Having a “permanent contract” is positively associated with job satisfaction relative to having a “fixed-term contract”, and this pattern persists across specifications. This finding is consistent with evidence that fixed-term employment is often linked to poorer working conditions, weaker career prospects, and lower pay (Aleksynska, 2018).

The indicator for having “no written contract” is not statistically significant in most specifications and is only marginally significant in Models 4 through 6. Because this contract type accounts for a relatively small share of the sample (Table 4.7), the estimates may be imprecise, so the results should be interpreted cautiously. Similar caution applies to the “other/missing” category, which combines heterogeneous responses (for example, agency work, apprenticeship, other, don’t know or refusal, and missing). This category is retained primarily to limit sample loss, but its coefficient is not easily interpreted as a distinct contract type.

In Model 6, sector of employment is added to the analysis. Relative to the reference category of “public-sector employment”, “private sector” employees report lower job satisfaction. The literature often attributes this public sector-satisfaction premium to greater job security, better work-family balance, and more generous leave arrangements (Andrade and Westover, 2023; Sánchez-Sánchez and Fernández Puente, 2021).

Table 5.1: Job Satisfaction and Work-Hour Mismatch: Baseline and Extended Specifications

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.747***	-1.750***	-1.926***	-1.950***	-1.920***	-1.948***	-1.805***	-1.211***	-1.210***	-1.009***
	(0.199)	(0.175)	(0.169)	(0.168)	(0.164)	(0.164)	(0.167)	(0.172)	(0.175)	(0.192)
Under-employment	-2.776***	-2.410***	-2.530***	-2.474***	-2.485***	-2.278***	-1.627***	-1.630***	-1.601***	-1.800***
	(0.629)	(0.620)	(0.542)	(0.515)	(0.516)	(0.518)	(0.412)	(0.452)	(0.446)	(0.471)
Age/10		-0.365***	-0.456***	-0.500***	-0.510***	-0.498***	-0.293***	-0.238***	-0.243***	-0.191**
		(0.068)	(0.077)	(0.079)	(0.080)	(0.083)	(0.080)	(0.080)	(0.080)	(0.079)
Age squared		0.051***	0.059***	0.063***	0.063***	0.062***	0.038***	0.031***	0.032***	0.026***
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.042	-0.004	0.002	-0.017	-0.019	0.030	0.026	0.033	0.062**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.305***	0.233***	0.226***	0.220***	0.230***	0.140**	0.144**	0.142**	0.122**
		(0.064)	(0.064)	(0.062)	(0.061)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.773***	0.397***	0.393***	0.367***	0.388***	0.178***	0.177***	0.172***	0.148***
		(0.077)	(0.073)	(0.071)	(0.067)	(0.070)	(0.057)	(0.054)	(0.054)	(0.053)
Household size		0.036***	0.033***	0.033***	0.032***	0.034***	0.045***	0.053***	0.052***	0.050***
		(0.011)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.151***	-0.167***	-0.163***	-0.160***	-0.153***	-0.132***	-0.132***	-0.140***	-0.134***
		(0.047)	(0.044)	(0.044)	(0.044)	(0.042)	(0.045)	(0.044)	(0.046)	(0.045)
Urbanization = 3, A medium to large town		-0.129***	-0.152***	-0.145***	-0.144***	-0.144***	-0.111***	-0.100**	-0.108***	-0.101**
		(0.039)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.237***	-0.273***	-0.269***	-0.262***	-0.232***	-0.204***	-0.198***	-0.206***	-0.197***
		(0.046)	(0.045)	(0.045)	(0.046)	(0.045)	(0.049)	(0.050)	(0.050)	(0.051)
Occupation = 1, Skill level < 3			-0.620***	-0.610***	-0.568***	-0.573***	-0.454***	-0.442***	-0.445***	-0.452***
			(0.057)	(0.057)	(0.055)	(0.054)	(0.052)	(0.049)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.279***	-0.278***	-0.250***	-0.241***	-0.191***	-0.203***	-0.201***	-0.213***
			(0.047)	(0.046)	(0.043)	(0.044)	(0.042)	(0.041)	(0.042)	(0.041)
Occupation = 3, Skill level = 3 & 4			0.241***	0.223***	0.282***	0.260***	0.163**	0.178***	0.178***	0.175***
			(0.063)	(0.063)	(0.067)	(0.068)	(0.061)	(0.062)	(0.062)	(0.060)
Contract type = 1, Permanent contract				0.301***	0.305***	0.298***	0.223***	0.200***	0.198***	0.200***
				(0.069)	(0.069)	(0.070)	(0.062)	(0.062)	(0.062)	(0.059)
Contract type = 3, No written contract				0.188*	0.230**	0.200*	0.160	0.135	0.133	0.133
				(0.105)	(0.105)	(0.110)	(0.103)	(0.106)	(0.107)	(0.102)
Contract type = 4, Other/missing				0.385***	0.437***	0.406***	0.344***	0.340***	0.338***	0.328***
				(0.085)	(0.088)	(0.094)	(0.084)	(0.085)	(0.085)	(0.083)
Sector = 2, Private sector					-0.213***	-0.211***	-0.218***	-0.188***	-0.192***	-0.188***
					(0.052)	(0.051)	(0.049)	(0.048)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.238**	-0.247***	-0.239***	-0.201**	-0.201**	-0.183**
					(0.091)	(0.088)	(0.081)	(0.081)	(0.081)	(0.080)
Commute/10 (Winsorised (0.01))						-0.026***	-0.019***	-0.013***	-0.013***	-0.010**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.411***	-0.379***	-0.372***	-0.351***
							(0.027)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.663***	0.657***	0.558***
								(0.050)	(0.050)	(0.049)
Chronic illness = 1, Yes									-0.213***	-0.177***
									(0.048)	(0.050)
Tired job										0.139***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.042	0.061	0.076	0.079	0.081	0.082	0.127	0.143	0.144	0.152

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Respondents in the "other" category also report lower job satisfaction than public sector employees. However, this category is a residual group that combines heterogeneous responses (for example, "other," refusals, "don't know," and missing), and it represents a small share of the sample. As a result, its coefficient does not have a clear theoretical interpretation. The category is retained primarily to avoid losing observations.

Commuting time is another correlate of job satisfaction included in the analysis. In Table 5.1, commute time is measured in minutes and is winsorized at the 99th percentile to limit the influence of extreme outliers (for example, 720 minutes per day). Under this approach, 179 observations above the 99th percentile are top-coded at 180 minutes, the 99th percentile value. As a robustness check, winsorization at the 95th percentile is also applied; in this case, 751 observations above the 95th percentile are top-coded at 120 minutes, and the results are reported in Table B.11.

The results are broadly similar across the two specifications. Coefficient magnitudes are close, commuting time is negatively associated with job satisfaction in both cases, and the estimated effect is relatively small. The coefficients on the other variables also remain largely unchanged. This pattern is consistent with the broader literature on commuting and well-being (Chatterjee et al., 2020; Zijlstra and Verhetsel, 2021).

Income sufficiency is strongly associated with job satisfaction, and omitting it may affect the estimated mismatch coefficients because financial strain is likely related to both work-hour mismatch and job satisfaction. Because the variable is reverse coded, higher values indicate greater difficulty making ends meet, and the negative coefficient implies that worsening income sufficiency is associated with lower job satisfaction. This pattern is consistent with the literature (Pohlig et al., 2022; Medgyesi and Zólyomi, 2016). When income sufficiency is added in Model 7, the under-employment coefficient declines more than the over-employment coefficient, which is consistent with financial strain being more closely linked to under-employment, or with income sufficiency capturing part of the pathway through which under-employment is associated with lower job satisfaction.

In Model 8, work-family balance is introduced and is strongly and positively associated with job satisfaction. Respondents who report that their working hours fit well with their family and social commitments tend to report substantially higher job satisfaction than those who report a poor fit, which is consistent with the view that compatibility between work and private life is an important component of job satisfaction. Adding this measure also affects the estimated mismatch coefficients. Because over-employment is plausibly more closely linked to time pressure and work-family conflict, controlling for work-family balance appears to account for part of the negative association between over-employment and job satisfaction. Accordingly,

the over-employment coefficient becomes less negative relative to Model 7, while the under-employment coefficient becomes relatively more negative again. This pattern is consistent with work-family balance being one channel through which over-employment is associated with lower job satisfaction.

In Model 9, health status is added to the job satisfaction specification. Because health and job satisfaction may be jointly determined (Ahn and García, 2004), the analysis uses an indicator for a diagnosed chronic illness rather than self-rated health. Chronic illness is negatively associated with job satisfaction, while the estimated mismatch coefficients remain qualitatively similar. [3]

Finally, a "tired after work" measure is added to capture the effect of work-related fatigue. Because higher values indicate feeling less tired, the positive coefficient implies that respondents who report lower fatigue also report higher job satisfaction. After fatigue is included, the over-employment coefficient becomes smaller in absolute value, suggesting that part of the association between over-employment and job satisfaction overlaps with work related fatigue. By contrast, the under-employment coefficient becomes more negative. One possible interpretation is that under-employed workers may be less fatigued on average; once this difference in fatigue is held constant, the remaining association may more clearly reflect other disadvantages linked to under-employment, such as income strain or insecurity.

5.1.1. Sensitivity to Alternative Operationalizations of Work-Hour Mismatch

In the primary analysis, work-hour mismatch intensity is modeled as a continuous measure that is rescaled using min-max normalization. This approach preserves variation in the magnitude of under-employment and over-employment while placing the two measures on a comparable scale. Because this operationalization is less common in the existing literature, the results are re-estimated using several alternative definitions to assess sensitivity and to maintain comparability with prior work.

First, under-employment and over-employment are operationalized in their raw continuous form (hours), as is common in the literature. Summary results for the full model specification (Model 10) are presented in Table 5.2. In the hours-based specification, the coefficients can be interpreted as the change in job satisfaction associated with an additional hour of under-employment or over-employment, respectively.

[3] Although a diagnosis is less subjective, chronic illness may still be endogenous. As a sensitivity analysis, a two-stage residual inclusion (2SRI) model is estimated (Table B.10), using difficulty reaching a doctor's office (distance) as an instrument. The identifying assumption is that access difficulty affects job satisfaction only through health. In the first stage probit, respondents reporting that access is "a little difficult" or "very difficult" are more likely to report chronic illness than those reporting no difficulty, which is consistent with instrument relevance. In the second stage, job satisfaction is regressed on chronic illness and the first stage generalized residual. In the baseline and sociodemographic specifications, the residual term is statistically significant, which is consistent with chronic illness being endogenous in those models. When the full set of controls is included, both chronic illness and the residual become statistically insignificant. This pattern suggests that, conditional on the full set of controls, the association between chronic illness and job satisfaction is substantially weaker and there is less evidence of remaining endogeneity.

The first column of Table 5.2 shows that the direction of association is unchanged relative to the main model in Table 5.1. As in the main model, the estimated association for under-employment is larger in magnitude than that for over-employment. This pattern is not limited to Model 10 (the specification with the full set of controls), it is observed across all models. Complete estimates for all continuous-hour specifications are reported in Table B.3.

Winsorization and trimming of extreme values: Inspection of the raw data suggests that a small number of observations may reflect reporting errors or implausibly large hour gaps. For example, some respondents report a desire to work an additional 112 hours per week (approximately 16 hours per day), while others report over-employment of 100 hours per week. To assess whether such extreme values drive the results, several additional specifications are estimated.

Table 5.2: Sensitivity of Job Satisfaction to Alternative Mismatch Measures

Dependent Variable: Job Satisfaction	Continuous (Raw)	Winsorized (99%)	Winsorized (95%)	Outliers Dropped	Categorical (Matched=0 hours)	Categorical (Matched=±4 hours)
Over-employment	-0.010***	-0.011***	-0.014***	-0.011***	-0.257***	-0.238***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.039)	(0.041)
Under-employment	-0.160***	-0.022***	-0.043***	-0.029***	-0.387***	-0.380***
	(0.004)	(0.004)	(0.007)	(0.004)	(0.056)	(0.057)
Controls	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓
Year	✓	✓	✓	✓	✓	✓
Observations	31,686	31,686	31,686	31,176	31,686	31,686
R-squared	0.152	0.153	0.153	0.151	0.155	0.151

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). All columns report the final specification (Model 10) including the full set of individual, household, and job-related controls.

The first outlier-handling strategy applies winsorization at the 99th percentile. Over-employment values above the 99th percentile are set to the 99th-percentile threshold (45 hours), affecting 317 observations. Under-employment values above the 99th percentile are set to the corresponding threshold (30 hours), affecting 275 observations. The resulting estimates are consistent with the baseline pattern (full results are reported in Table B.4).

Next, a more stringent winsorization is applied at the 95th percentile, which caps over-employment at 30 hours (1,276 observations) and under-employment at 10 hours (1,643 observations). Under this specification, the under-employment penalty increases relative to the over-employment penalty compared with the other operationalizations of work-hour mismatch. Estimates for all 10 models are provided in Table B.5.

Finally, a trimming approach is used by excluding observations above the 99th percentile, which removes

592 observations. Full estimates for this specification are reported in Table B.6. The coefficients for both under-employment and over-employment remain statistically significant, and the under-employment effect remains substantially larger in magnitude than the over-employment effect, indicating that the main conclusions are not driven by a small number of extreme values.

Categorical specifications: Much of the existing literature defines mismatch categorically by comparing under-employed and over-employed workers to a matched reference group. Although this approach does not capture mismatch intensity, it provides a transparent benchmark widely used in prior studies. A standard categorical definition is first employed, where a match is defined as zero hours of deviation. Summary results are reported in Table 5.2, with detailed estimates in Table B.7. In addition, a ± 4 hour threshold is used to define the matched category, consistent with prior robustness checks that treat small deviations as potentially non-substantive. Detailed results for this specification are reported in Table B.8. Across both categorical measures, the results remain robust: under-employment is associated with a larger reduction in job satisfaction than over-employment, relative to the matched reference group.

5.2. Welfare States and Differences in Job Satisfaction

This section examines Hypothesis 2, which posits that "*Welfare states with higher de-commodification buffer the negative association between work-hour mismatch and job satisfaction*". To motivate the empirical analysis, the discussion in Section 2.2 is used to develop expectations across welfare regimes. Given the core features of these regimes, differences are anticipated both in average job satisfaction and in the degree to which welfare states may buffer the association between work-hour mismatch and job satisfaction. In particular, social-democratic countries are expected to display higher average job satisfaction and a stronger buffering pattern.

In the empirical specifications, the models are estimated without the full set of control variables to provide a clearer view of welfare regime differences. Welfare regimes are incorporated in two ways: (i) as independent variables in the pooled model, as shown in Equation 3.14, to examine whether average job satisfaction differs across regimes, and (ii) through interactions with work-hour mismatch, as shown in Equation 3.15, to examine whether the mismatch association differs across regimes, which may indicate a buffering effect. In addition, stratified regressions are estimated separately for each welfare regime with the control variables included. This approach makes it possible to examine the role of the controls and the mismatch coefficients within each regime.

The OLS estimates for the welfare regime model and the interaction model are reported in Table B.25. The first two columns include welfare regimes as independent variables for the full sample and for the

sample excluding Türkiye, respectively. The last two columns report the interaction models, where welfare regimes are interacted with over-employment and under-employment. Table B.25 shows that work-hour mismatch remains statistically significant when welfare regimes are included, both in the full sample and in the sample excluding Türkiye. In the specification that includes welfare regimes as main effects, the under-employment coefficient is larger in magnitude than the over-employment coefficient. When Türkiye is excluded, the under-employment penalty becomes larger, which may indicate that the under-employment association is weaker in Türkiye than in the other southern European countries in the sample. Because welfare regime differences are interpreted relative to the central and eastern European group, the discussion should rely primarily on pairwise comparisons and margins plots rather than the raw regression coefficients.

Interpreting welfare regime differences in average job satisfaction is most visible using pairwise comparisons. Table 5.3 reports Bonferroni-adjusted pairwise differences in job satisfaction across welfare regimes. In total, ten pairwise comparisons are reported. The contrast value gives the estimated mean difference between two regimes (a negative value indicates that the first regime has lower average job satisfaction than the second).

Focusing on comparisons with social-democratic regimes, the results indicate that southern European and central and eastern European regimes have significantly lower average job satisfaction than social-democratic regimes, even after the Bonferroni-correction. Liberal regimes also exhibit lower job satisfaction than social-democratic regimes, but this difference is only marginally significant at the 10 percent level and does not reach the 5 percent threshold after adjustment. By contrast, the difference between conservative-corporatist and social-democratic regimes is not statistically significant, suggesting that average job satisfaction is not clearly distinguishable between these two regimes in this specification.

These patterns align with welfare-state perspectives that emphasize stronger social protection and decommodification in social-democratic regimes, which may reduce insecurity and improve workers' capacity to avoid or negotiate unfavorable job conditions. More extensive public services and defamilialising supports, such as childcare and long-term care provision, may also ease work-family pressures and daily stress, contributing to higher job satisfaction. In addition, stronger collective bargaining and working time regulation may support more predictable schedules and higher job quality, which are often linked to job satisfaction.

Turning to comparisons involving conservative-corporatist regimes, southern European and central and eastern European regimes also show lower average job satisfaction than conservative-corporatist regimes.

Table 5.3: Comparisons of Job Satisfaction Across Welfare Regimes

Contrast	Contrast	Std. err.	t	p (Bonf.)	95% CI
Conservative-Corporatist vs Social-Democratic	-0.371	0.141	-2.620	0.134	[-0.798, 0.056]
Liberal vs Social-Democratic	-0.422	0.148	-2.850	0.077	[-0.870, 0.025]
Southern European vs Social-Democratic	-0.788	0.157	-5.020	0.000	[-1.262, -0.314]
Central and Eastern European vs Social-Democratic	-0.700	0.130	-5.410	0.000	[-1.092, -0.309]
Liberal vs Conservative-Corporatist	-0.051	0.133	-0.390	1.000	[-0.453, 0.350]
Southern European vs Conservative-Corporatist	-0.417	0.142	-2.930	0.063	[-0.847, 0.013]
Central and Eastern European vs Conservative-Corporatist	-0.329	0.113	-2.920	0.064	[-0.669, 0.011]
Southern European vs Liberal	-0.366	0.149	-2.450	0.201	[-0.817, 0.085]
Central and Eastern European vs Liberal	-0.278	0.121	-2.300	0.284	[-0.643, 0.087]
Central and Eastern European vs Southern European	0.088	0.134	0.660	1.000	[-0.316, 0.492]

Notes: Entries report Bonferroni-adjusted pairwise differences in mean outcomes across welfare regimes. Negative values indicate the first group has a lower value than the second group.

However, these differences do not reach the 5 percent level after the Bonferroni adjustment. One possible interpretation is that southern European and central and eastern European regimes may feature greater labor market segmentation, weaker enforcement of job quality standards for some groups, and higher perceived insecurity, which could be associated with lower job satisfaction even when formal protections exist. At the same time, given the conservative nature of the Bonferroni correction and the imprecision of some contrasts, these regime differences should be interpreted cautiously.

These regime level differences provide useful context for the work-hour mismatch results. They indicate that baseline job satisfaction varies across welfare regimes, which may help explain why the associations of over-employment and under-employment with job satisfaction differ across regimes in the mismatch models.

Table B.26 reports the pairwise comparisons across welfare regimes when Türkiye is excluded. In this specification, the difference between southern European and conservative-corporatist regimes is no longer statistically significant. This contrast was marginally significant in the baseline estimates, so the change suggests that excluding Türkiye makes the southern European group more similar to the conservative-corporatist group in terms of average job satisfaction.

These regime level differences provide useful context for the work-hour mismatch results. They indicate that baseline job satisfaction varies across welfare regimes, which may help explain why the associations of over-employment and under-employment with job satisfaction differ across regimes in the mismatch models.

5.3. Welfare Regimes and the Work-Hour Mismatch Penalty

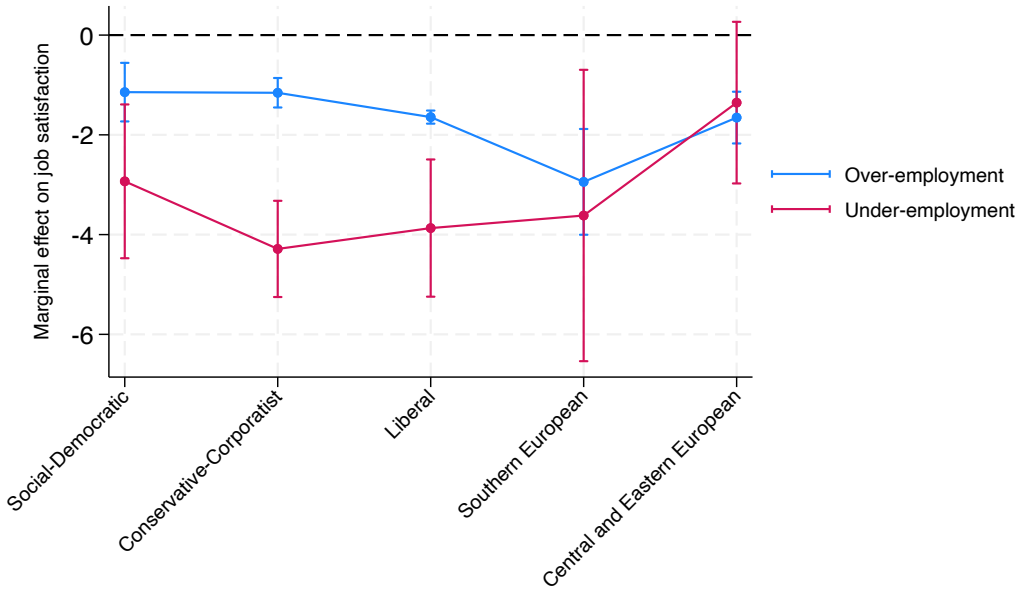
To assess whether welfare regimes buffer the negative association between work-hour mismatch and job satisfaction, the interaction model is estimated. Because the interaction coefficients are not straightforward to interpret, marginal effects of under-employment and over-employment are presented by welfare regime in Figure 5.1. The corresponding estimates, with standard errors and significance levels for both the full sample and the sample excluding Türkiye, are reported in Table B.27. All marginal effects are statistically significant. Although the under-employment penalty increases when Türkiye is excluded, and the under-employment estimate for southern European countries becomes more statistically significant, the overall pattern of results is broadly similar across the two samples.

Across regimes, both under-employment and over-employment are negatively associated with job satisfaction. In most regimes, the under-employment association is larger in magnitude than the over-employment association, with central and eastern Europe as the main exception. Social-democratic countries exhibit the smallest marginal effects for both mismatch measures, which is consistent with a buffering pattern. The exception is central and eastern Europe, where the under-employment marginal effect is smaller than in social-democratic countries.

For over-employment, southern European countries show the largest negative association with job satisfaction. One possible explanation is that, in addition to having relatively high average working hours compared to most other regimes (except central and eastern Europe), this group also has the highest average deviation between actual and preferred hours: 5.46 hours in 2012 and 6.07 hours in 2016 (Table 4.1). Beyond differences in working hours, regime characteristics may also contribute. The southern European model is often characterized by a dualistic labor market that separates well protected insiders from more precarious outsiders, alongside more constrained public resources. Social spending tends to be low, and welfare support is often less comprehensive. In addition, some benefits are described as being distributed in a more discretionary or clientelist manner, rather than according to universal rules. These economies have also become more service oriented and are often characterized by higher levels of precarious employment. At the same time, GDP per capita tends to be lower and job insecurity remains a prominent concern (Natili and Jessoula, 2022; Petmesidou, 2018; Gal, 2010; Ferrera, 1996). Taken together, higher levels of over-employment alongside these broader structural constraints may help explain why over-employment is more strongly associated with lower job satisfaction in southern European countries than in other welfare regimes.

The effect of under-employment is largest in conservative-corporatist countries. Figure 4.6 indicates

Figure 5.1: Effects of Work-Hour Mismatch by Welfare States



that, after liberal regimes, conservative-corporatist countries have one of the highest shares of under-employment. This higher prevalence, combined with relatively lower de-commodification, less universal coverage, and a stronger reliance on earnings-related benefits, may make the under-employment association more visible in this regime (Clegg, 2018; Esping-Andersen, 1990; Wiß, 2022).

Although under-employment is more prevalent in liberal regimes, the marginal effect on job satisfaction is found to be smaller. One possible explanation is that labor markets and expectations differ across regimes. Conservative-corporatist systems have traditionally been associated with stable, continuous employment trajectories, in which individuals enter the labor market after completing education and often remain in the same job until retirement. Over time, however, structural changes and shifting preferences have made stable full time jobs less common, with more job mobility and more frequent interruptions in employment. At the same time, union power has weakened in many of these countries (Wiß, 2022). Together, these developments may leave fewer mechanisms to offset the consequences of under-employment while also increasing the gap between expectations and labor market realities.

In liberal regimes, under-employment may be less strongly associated with job satisfaction even though it is relatively more prevalent than in conservative-corporatist countries. One possible explanation is that liberal regimes place greater emphasis on individual responsibility, so under-employment may be interpreted as an individual failure or lack of competence, in line with a traditional liberal work ethic.

Relatedly, public attitudes toward welfare receipt may be less supportive, and benefit use may be viewed as a sign of personal failure or lack of effort. In addition, liberal welfare states typically provide lower de-commodification and rely more on means-tested benefits targeted to those at risk of severe poverty (Esping-Andersen, 1990; Heins and Dukelow, 2022). Together with more flexible labor markets, these features may help account for the weaker association between under-employment and job satisfaction in liberal regimes relative to conservative-corporatist regimes.

The relatively smaller under-employment effect in the central and eastern European group is somewhat unexpected given the comparatively more limited welfare provision typically associated with these countries. Descriptive statistics show that this group combines the highest average working hours and relatively high levels of work-hour mismatch with low average job satisfaction (Table 4.1). At the same time, Figure 4.6 indicates that under-employment is comparatively less prevalent in this group.

One plausible interpretation is therefore that the mismatch profile in this group is driven more by long-hours work and over-employment than by widespread under-employment. This reading is consistent with accounts emphasizing tighter fiscal capacity and sizeable shadow economies in parts of central and eastern Europe, which may limit both the coverage and the effectiveness of social protection (Aidukaitė, 2010; Fenger, 2007). Moreover, following the post-socialist transition, the earlier emphasis on full employment weakened and unemployment became a more salient labor-market concern (Hrast and Dobrotić, 2022). In such contexts, job satisfaction may be shaped more by broader features of job quality, labor-market insecurity, and limited welfare support than by under-employment alone. In line with this, prior research links less generous welfare provision to lower subjective well-being (Easterlin, 2013; Radcliff, 2013), which is consistent with the descriptive patterns of comparatively low job satisfaction observed in this group.

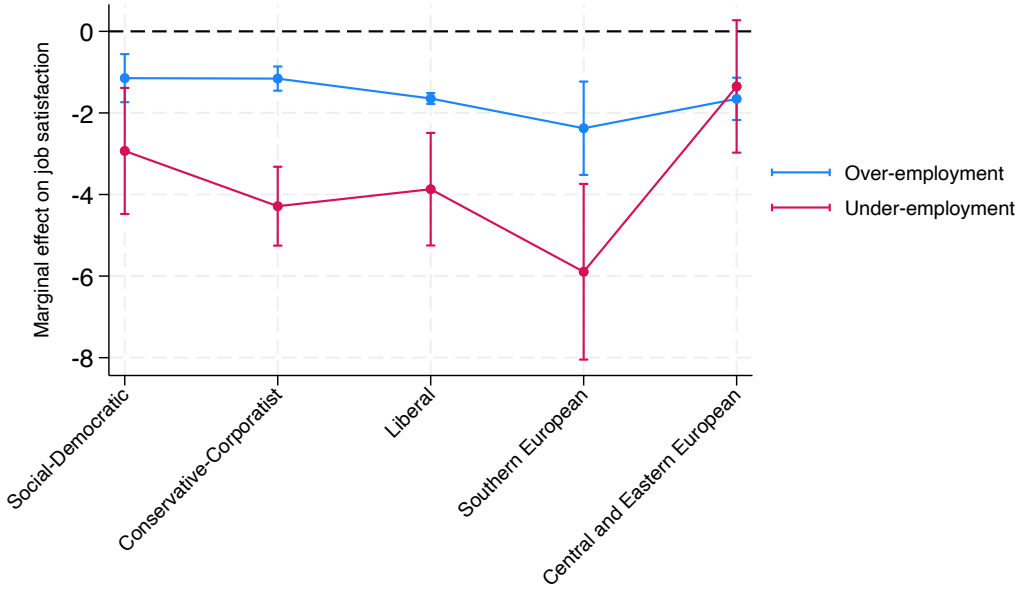
Taken together, the smaller under-employment association in central and eastern Europe may reflect the relatively low prevalence of under-employment in this group and the possibility that support comes from outside the welfare state. For example, extended family networks may provide financial and practical support, and some individuals may rely on additional informal work within the shadow economy. These countries also inherited dual-earner patterns from the socialist era while maintaining strong family roles and intergenerational support (Hrast and Dobrotić, 2022; Saxonberg and Sirovátka, 2018). This combination may help buffer the association between under-employment and job satisfaction through family based and informal mechanisms, even if welfare state protection is more limited.

Given that these countries may face greater economic instability and have larger informal sectors, one

possibility is that workers adjust their expectations downward and come to view work-hour mismatches as relatively common and structurally driven. In that case, mismatch may be more readily normalized, which could weaken its association with job satisfaction. The relatively low average level of job satisfaction in this group may reinforce this process by lowering the reference point individuals use when evaluating their jobs.

Figure 5.2 reports the results when Türkiye is excluded from the southern European welfare regime. In this specification, the marginal effect of under-employment becomes larger in magnitude, while the marginal effect of over-employment becomes smaller (see Table B.27). Türkiye has comparatively high average working hours. Although reported hours fall between 2012 and 2016, average hours remain high, and the prevalence of over-employment is substantially larger in Türkiye than in the rest of the southern European group (70.45 percent versus 48.15 percent; see Table A.5). Excluding Türkiye therefore can reduce the extent of over-employment in the southern European category, which may weaken the estimated over-employment association with job satisfaction.

Figure 5.2: Effects of Work-Hour Mismatch by Welfare States (Türkiye excluded)



Exclusion of Türkiye also affects average job satisfaction across regimes. When Türkiye is removed, the previously observed difference in average job satisfaction between conservative-corporatist and southern European regimes is no longer statistically significant, suggesting that the remaining southern European countries are closer to conservative-corporatist countries in terms of average job satisfaction, while Türkiye

pulls down the southern European average (see Trantable B.26).

Regarding under-employment, 11.72 percent of respondents in Türkiye report being under-employed, compared with 12.87 percent in the rest of the southern European group. The difference is small it still means that under-employment is slightly more common in the southern European sample when Türkiye excluded. Since average job satisfaction is also higher in these countries than in Türkiye (Table A.3), under-employment may stand out more as a negative deviation from what workers expect. In addition, southern European labor markets, especially once Türkiye is excluded, are often described as more precarious, which may make the disadvantages linked to under-employment more strongly felt.

5.3.1. Results by Welfare States

This section examines the associations of under-employment and over-employment with job satisfaction across welfare regimes. Table 5.4 reports the estimated coefficients for under-employment and over-employment across the ten models presented earlier. Estimates for the control variables are reported in the Appendix, with brief interpretations provided below each corresponding table. Results by welfare regime are reported in the following tables: Social-democratic (Table B.28), conservative-corporatist (Table B.29), liberal (Table B.30), southern European (Table B.31), southern European excluding Türkiye (Table B.32), and central and eastern European (Table B.33).

Table 5.4 indicates that both under-employment and over-employment are associated with lower job satisfaction, and these associations are statistically significant in most specifications. The estimated association is larger in magnitude for under-employment than for over-employment, which is consistent with Hypothesis 1. Two exceptions stand out and motivate a closer look at regime specific patterns. In central and eastern European regimes, under-employment is not statistically significant from Model 6 through Model 10. In liberal regimes, the over-employment coefficient is not statistically significant from Model 8 through Model 10.

For the central and eastern European group, the lack of statistical significance for under-employment may partly reflect the relatively low prevalence of under-employment in this regime (Figure 4.6). In addition, informal support networks may dampen the consequences of insufficient hours. Even where public welfare provision is more limited, community ties and support from extended family can provide assistance for individuals in need, which may weaken the association between under-employment and job satisfaction (Hrast and Dobrotić, 2022; Saxonberg and Sirovátka, 2018). At the same time, low prevalence alone is unlikely to be the full explanation, since under-employment is also relatively uncommon in social-democratic countries, where a statistically significant association is still observed. A further possibility

is that baseline levels of job satisfaction, and therefore expectations, differ across regimes. Average job satisfaction is typically higher in social-democratic countries and comparatively lower in central and eastern European countries. If expectations adapt to prevailing conditions and social comparisons, work-hour mismatch may carry less weight for job satisfaction in settings where average job satisfaction is lower (Clark and Oswald, 1996). Relatedly, a similar pattern appears for over-employment in this group: once income sufficiency is included (Model 7), the estimated over-employment association is the smallest among the regimes, and this remains the case in Models 8 through 10.

Table 5.4: Work-Hour Mismatch Effects Across Welfare Regimes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Social-Democratic										
Over	-1.069***	-1.114***	-1.431***	-1.504***	-1.511***	-1.571***	-1.566***	-1.072***	-1.030**	-0.741*
	(0.407)	(0.408)	(0.407)	(0.411)	(0.411)	(0.422)	(0.420)	(0.415)	(0.411)	(0.415)
Under	-2.932***	-2.309**	-2.177*	-2.357**	-2.289*	-2.579**	-2.289*	-2.126*	-2.025*	-2.037*
	(1.076)	(1.122)	(1.152)	(1.168)	(1.182)	(1.214)	(1.214)	(1.186)	(1.172)	(1.184)
Conservative-Corporatist										
Over	-1.167***	-1.392***	-1.636***	-1.739***	-1.766***	-1.800***	-1.731***	-1.130***	-1.117***	-0.884**
	(0.331)	(0.333)	(0.343)	(0.346)	(0.348)	(0.370)	(0.373)	(0.368)	(0.367)	(0.363)
Under	-4.286***	-3.611***	-3.640***	-3.470***	-3.461***	-3.255***	-2.508***	-2.638***	-2.481***	-2.865***
	(0.709)	(0.699)	(0.700)	(0.700)	(0.696)	(0.704)	(0.680)	(0.681)	(0.679)	(0.689)
Liberal										
Over	-1.654***	-1.727***	-1.940***	-2.007***	-2.001***	-2.362***	-2.143***	-0.893	-0.902	-0.617
	(0.571)	(0.559)	(0.575)	(0.575)	(0.575)	(0.604)	(0.606)	(0.598)	(0.598)	(0.589)
Under	-3.873***	-3.624***	-3.839***	-4.001***	-3.999***	-3.690***	-2.376*	-2.748**	-2.745**	-2.981**
	(1.186)	(1.219)	(1.187)	(1.205)	(1.209)	(1.308)	(1.298)	(1.299)	(1.300)	(1.313)
Southern European										
Over	-2.920***	-2.627***	-2.772***	-2.699***	-2.609***	-2.629***	-2.422***	-1.989***	-2.003***	-1.915***
	(0.333)	(0.312)	(0.309)	(0.308)	(0.309)	(0.313)	(0.300)	(0.301)	(0.299)	(0.302)
Under	-3.594**	-3.132*	-3.477**	-3.334**	-3.257**	-3.108**	-2.586**	-2.611**	-2.628**	-2.700**
	(1.594)	(1.599)	(1.439)	(1.424)	(1.399)	(1.405)	(1.152)	(1.234)	(1.236)	(1.261)
Southern European-Türkiye excluded										
Over	-2.347***	-2.230***	-2.350***	-2.192***	-2.120***	-2.117***	-1.767***	-1.283***	-1.285***	-1.194***
	(0.306)	(0.299)	(0.300)	(0.302)	(0.302)	(0.303)	(0.283)	(0.290)	(0.291)	(0.293)
Under	-5.931***	-5.697***	-5.698***	-5.321***	-5.271***	-5.299***	-3.980***	-4.154***	-4.186***	-4.350***
	(0.686)	(0.680)	(0.683)	(0.679)	(0.675)	(0.684)	(0.681)	(0.681)	(0.683)	(0.684)
Central and Eastern European										
Over	-1.680***	-1.590***	-1.739***	-1.702***	-1.654***	-1.640***	-1.460***	-0.895***	-0.891***	-0.625**
	(0.237)	(0.233)	(0.229)	(0.230)	(0.230)	(0.241)	(0.242)	(0.252)	(0.252)	(0.251)
Under	-1.290**	-1.076*	-1.043*	-0.926	-0.987*	-0.716	0.020	0.051	0.088	-0.145
	(0.607)	(0.584)	(0.584)	(0.576)	(0.580)	(0.572)	(0.548)	(0.564)	(0.570)	(0.574)

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

In liberal welfare states, the over-employment coefficient becomes statistically insignificant once work-family balance is included in the specification. This pattern is consistent with the interpretation that the negative association between over-employment and job satisfaction operates primarily through work-family balance. Since job related attributes appear to play a relatively prominent role in shaping job satisfaction in liberal settings, which are often described as more individualistic than other contexts,

work-family balance may be a particularly salient channel in this regime type (Gu et al., 2022). Under-employment, by contrast, remains negatively associated with job satisfaction in liberal welfare states. However, the under-employment coefficient declines more in liberal countries when income sufficiency is included than in other regimes and in the full sample. This suggests that perceived income adequacy may explain a larger share of the under-employment and job satisfaction association in this group. More broadly, this is in line with the view that job characteristics, including pay related aspects, are especially important for job satisfaction in more individualistic contexts (Gu et al., 2022).

Beyond statistical significance, the estimated coefficients for the work-hour mismatch variables also differ in magnitude across welfare regimes. Both over-employment and under-employment show the largest negative associations with job satisfaction in Southern European countries. The under-employment association becomes larger when Türkiye is excluded from the southern European group. By contrast, the associations of under-employment and over-employment with job satisfaction are smallest in social-democratic countries, which is consistent with a buffering effect. Finally, the role of perceived income adequacy again appears relevant when comparing regimes: for over-employment, the estimated association in the central and eastern European group decreases once income sufficiency is included, suggesting that income sufficiency may matter more for this relationship in central and eastern European countries than in social-democratic countries.

5.4. Job Satisfaction and Perceived Quality of Public Services

This subsection examines whether perceived quality of public services moderates the association between work-hour mismatch and job satisfaction. Perceived public service quality is used as an individual level proxy for welfare state strength. As discussed in Section 4.3, perceived public service quality is reported to be higher in social-democratic countries, which is consistent with the characterization of these countries as relatively highly de-commodifying welfare states. Building on this, perceived quality of public services will be associated with higher job satisfaction. Moreover, if welfare states provide a protective environment through the provision of essential services, higher perceived service quality may be associated with a weaker negative association between work-hour mismatch and job satisfaction, particularly for over-employment.

Hypothesis 3 is evaluated by estimating Equation 3.16 with interaction terms between work-hour mismatch (under-employment and over-employment) and perceived quality of public services:

> ***H3:*** *Quality of public services (welfare-state proxy) buffers against the negative effect of work-hour mismatch.*

Conceptually, this hypothesis is motivated by the idea that welfare states operate not only through income transfers but also through the provision of essential public services. Using individual level information, the analysis assesses whether higher perceived public service quality is associated with smaller job satisfaction penalties among workers experiencing work-hour mismatch. Although moderation could plausibly arise for both under-employment and over-employment, the primary expectation concerns over-employment, which is more strongly linked in the literature to time pressure and work-life imbalance than to reduced earnings. This emphasis is consistent with the measurement approach: the indicator captures perceived service quality rather than the affordability of services, and thus aligns more closely with non-monetary buffering channels (e.g., reduced time costs and stress) than with direct financial relief.

5.4.1. Missing Data and Multiple Imputation

Multiple imputation is used to address item non-response in the perceived quality of public services, particularly for services that respondents may not personally use. When these quality measures are handled via listwise deletion, the number of observations declines substantially (from 33,883 to 19,086). Because the number of respondents classified as under-employed is already relatively small, such a reduction further limits statistical power and may lead to estimation problems. To address this issue, this study employs Multiple Imputation by Chained Equations (MICE), which mitigates the potential bias and loss of statistical power associated with listwise deletion by imputing missing values based on observed relationships among variables in the dataset.

Prior to imputation, "Don't Know" and "Refusal" responses were identified across seven public service dimensions: health, education, public transport, childcare, long-term care, social housing, and pensions. To retain information about the missingness mechanism, binary indicator variables (flags) were created for these non-responses, since missing evaluations of public services may be systematically related to respondents' characteristics and service use.

Missing values were imputed using Predictive Mean Matching (PMM) with five nearest neighbors ($k = 5$). PMM was chosen because it is semi-parametric: rather than drawing synthetic values from a parametric distribution, it identifies a set of similar "donor" observations among cases with observed values and imputes missing responses by randomly selecting one of the donors' observed values. This procedure ensures that imputed values remain within the original 1-10 response scale and preserves the non-normal distributions typical of survey data.

Following the inclusive strategy recommended by Collins et al. (2001), the imputation model included the dependent variable and all independent variables used in the final analysis. A total of 20 imputations were

generated, exceeding the traditional recommendation of $m = 5$ and improving efficiency in estimating standard errors given the fraction of missing information for some public service items. A burn-in period of 10 iterations was used to allow the chained equations to reach a stable distribution before imputations were retained. The analysis was then conducted separately on each imputed dataset, and estimates were pooled using Rubin's Rules, which adjust standard errors to reflect both within and between imputation uncertainty.

5.4.2. Results

After imputation, five models are estimated to examine (i) how perceived quality of public services is associated with job satisfaction and (ii) whether it moderates the relationship between work-hour mismatch and job satisfaction. Table 5.5 reports five specifications. Model 1 includes survey year fixed effect. Model 2 adds country fixed effects in addition to year fixed effect. Model 3 includes the full set of control variables but excludes country fixed effects. Model 4 includes both country and wave fixed effects along with the full set of controls. Model 5 reports a main effects specification (without interaction terms) with the full set of controls in order to assess the direct association between perceived quality of public services and job satisfaction. All models include a constant term, and standard errors are clustered at the country level. The full set of coefficients for the control variables is presented in Table B.34, the last four columns report the corresponding estimates for the sample excluding Türkiye.

Across the interaction specifications (Models 1-4), over-employment is consistently negatively associated with job satisfaction and statistically significant, while perceived quality of public services is positively associated with job satisfaction and statistically significant. Under-employment is also negatively associated with job satisfaction in all interaction specifications, but its coefficient is not statistically distinguishable from zero. Moreover, the interaction terms between work-hour mismatch and perceived quality of public services are not statistically significant in Models 1-4, indicating limited evidence of a moderating role for perceived public service quality.

Because the main-effect coefficients in an interaction model are evaluated at a specific value of perceived public service quality (i.e., when the service quality variable equals zero), which is not substantively meaningful given the observed distribution of the measure, marginal effects at empirically relevant levels are more informative. Accordingly, Table 5.6 reports average marginal effects (AMEs) of under-employment and over-employment evaluated at selected quantiles of perceived public service quality (10th, 25th, 50th, 75th, and 90th percentiles). The AMEs suggest that the negative association between over-employment and job satisfaction becomes smaller in magnitude as perceived public service quality

Table 5.5: Job Satisfaction and Perceived Quality of Public Services

	Model 1	Model 2	Model 3	Model 4	Model 5
Over-employment	-2.328***	-2.152***	-1.772**	-1.565**	-0.806***
	(0.710)	(0.647)	(0.796)	(0.726)	(0.176)
Under-employment	-3.632	-4.013	-3.508	-3.643	-1.662***
	(2.692)	(2.576)	(2.704)	(2.555)	(0.468)
Quality of public services	0.037***	0.035***	0.026***	0.029***	0.031***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Over-employment x Quality of public services	0.017	0.020	0.022	0.019	–
	(0.015)	(0.014)	(0.016)	(0.015)	
Under-employment x Quality of public services	0.022	0.037	0.042	0.048	–
	(0.063)	(0.065)	(0.062)	(0.061)	
Controls			✓	✓	✓
Wave	✓	✓	✓	✓	✓
Country		✓		✓	✓
Constant	✓	✓	✓	✓	✓
Observations	33,883	33,883	31,686	31,686	31,686

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

increases. For under-employment, AMEs likewise become less negative at higher quality levels and, in the fully controlled specifications (Models 3 and 4), are statistically indistinguishable from zero at the 90th percentile. However, given the statistically insignificant interaction terms, these patterns should be interpreted cautiously.

Table 5.6: AMEs of Work-Hour Mismatch Across Public Service Quality Levels

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Quality level	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**
24 (10th)	-1.922***	-3.115**	-1.673***	-3.121***	-1.253***	-2.500*	-1.109***	-2.501**
	(0.438)	(1.232)	(0.333)	(1.103)	(0.444)	(1.253)	(0.375)	(1.150)
33 (25th)	-1.769***	-2.922***	-1.493***	-2.786***	-1.059***	-2.122***	-0.939***	-2.073***
	(0.375)	(0.750)	(0.239)	(0.669)	(0.327)	(0.755)	(0.256)	(0.683)
42 (50th)	-1.617***	-2.728***	-1.313***	-2.452***	-0.864***	-1.744***	-0.768***	-1.644***
	(0.355)	(0.510)	(0.191)	(0.605)	(0.239)	(0.444)	(0.169)	(0.455)
50 (75th)	-1.482***	-2.556***	-1.153***	-2.154**	-0.691***	-1.408**	-0.616***	-1.263*
	(0.378)	(0.734)	(0.216)	(0.934)	(0.217)	(0.627)	(0.165)	(0.691)
55 (90th)	-1.397***	-2.448**	-1.054***	-1.968	-0.583**	-1.198	-0.521**	-1.025
	(0.410)	(0.987)	(0.258)	(1.210)	(0.238)	(0.876)	(0.204)	(0.942)

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

As in the previous section, several robustness checks are conducted. First, the models are re-estimated on a subsample excluding Türkiye to assess the potential influence of this country on the results. The corresponding regression estimates are reported in Table B.34, while the marginal effects are reported in Table B.37. The regression results are broadly comparable to the full sample: work-hour mismatch remains negatively associated with job satisfaction and perceived quality of public services remains positively associated with job satisfaction. The marginal effects for under-employment become less negative as perceived public service quality increases, suggesting an "enhancing" rather than a buffering pattern in this subsample. Nevertheless, as in the full sample, the interaction terms are statistically insignificant, so these patterns should be interpreted cautiously. Second, as an additional check, all models are also estimated using listwise deletion (complete case analysis) rather than multiple imputation. These regression results

are reported in Table B.35 and the corresponding marginal effects are reported in Table B.36. The complete case estimates are largely consistent with the imputed results, although in Models 3 and 4 some marginal effects become statistically insignificant at certain levels of perceived public service quality.

Overall, the results provide robust evidence that perceived quality of public services is positively associated with job satisfaction, while work-hour mismatch remains negatively associated with job satisfaction after controlling for public service quality. With respect to Hypothesis 3, the marginal effects are suggestive of a buffering pattern whereby higher perceived public service quality is associated with a weaker negative association between work-hour mismatch and job satisfaction, but the lack of statistically significant interaction coefficients indicates that the evidence for moderation is limited and should not be interpreted as conclusive.

6. CONCLUSION

This thesis examines whether deviations between actual and preferred weekly working hours are associated with job satisfaction, and whether the strength of this association differs across European welfare regimes, using pooled cross-sectional data from the European Quality of Life Survey (EQLS) 2012 and 2016. Work-hour mismatch is measured as the difference between actual and desired weekly working hours: positive values indicate over-employment (working more hours than desired) and negative values indicate under-employment (working fewer hours than desired). The absolute value of this difference captures the intensity of mismatch in hours. In this thesis, job satisfaction is used as a broad indicator of the overall utility and well-being individuals derive from their jobs. Work-hour mismatch is therefore treated as a condition that may reduce well-being when people work more or fewer hours than they would prefer.

The decision to bring a welfare-state perspective into the analysis is motivated by the core role of welfare states in protecting workers against labor market risks and unforeseen life events, and in supporting well-being, including job satisfaction. To the best of current knowledge, welfare state frameworks have not been used to study the relationship between work-hour mismatch and job satisfaction, even though there are theoretical reasons to expect that welfare arrangements matter. One way to think about this is through the idea of de-commodification, a core feature associated with welfare regimes. De-commodification refers to the extent to which people can maintain a socially acceptable standard of living without being fully dependent on market earnings. In regimes where this dependence is lower, workers may face less pressure to accept unfavorable conditions and may have more room to seek working arrangements that better match their preferred hours. In addition, welfare states can shape working-time outcomes more directly through rules that limit maximum hours, and more indirectly through provisions that support workers when hours are insufficient or when combining paid work with family responsibilities becomes difficult. Because European countries differ in these welfare-state characteristics, welfare regime typologies provide a structured way to compare broader patterns across countries and to assess whether the job satisfaction penalty associated with under-employment and over-employment varies across these contexts. At the same time, because classic regime classifications may not fully reflect current welfare arrangements in every country, the analysis also considers perceived quality of public services as an additional individual level indicator of welfare state strength. This approach, again, has not been applied to the study of work-hour

mismatch and job satisfaction.

To examine whether welfare provision moderates the relationship between work-hour mismatch and job satisfaction, the thesis uses two strategies. First, a widely used classification of European welfare regimes (Social-Democratic, Conservative-Corporatist, and Liberal), along with two later extensions (Southern European and Central and Eastern European regimes), is incorporated into both the descriptive and empirical analyses. Second, perceived quality of public services is operationalized as a summed measure that combines respondents' evaluations of multiple public services. This index is used as an individual level proxy for the strength of welfare provision. The empirical strategy therefore combines measures of under-employment and over-employment with two welfare state lenses: regime groupings and perceived public service quality. Regression models include country and year fixed effects and use clustered standard errors. Additional checks rely on alternative mismatch measures and selected subsample analyses. Together, these choices help ensure the results reflect systematic patterns that are robust across reasonable alternatives, rather than hinging on a single modeling decision or idiosyncratic feature of one specification.

The descriptive analysis shows clear differences across welfare regimes. Average job satisfaction is highest in social-democratic countries, followed by conservative-corporatist and liberal regimes, while southern European and central and eastern European countries report lower average job satisfaction. In terms of working time, the mean mismatch is positive in every regime and wave, indicating that over-employment is more common on average. This average gap is largest in southern Europe and central and eastern Europe. When mismatch is examined categorically, under-employment is most prevalent in liberal regimes, whereas over-employment becomes more common in 2016 across all regimes, largely reducing the share of respondents with no mismatch. Perceived quality of public services follows a similar pattern: it is highest in social-democratic regimes and lowest in central and eastern Europe, and it improves from 2012 to 2016 across all regime groups. Across service areas, health and education tend to receive the strongest evaluations, while pensions and social housing are rated more poorly, especially pensions in central and eastern Europe.

The regression results suggest that both under-employment and over-employment are negatively associated with job satisfaction. This relationship is robust to alternative ways of measuring mismatch and to most of the subsample analyses. The magnitude of the mismatch coefficients declines as additional controls are introduced, but the associations do not disappear and remain statistically significant. This pattern suggests that the link between work-hour mismatch and job satisfaction is not fully explained by observed

job characteristics, socio-demographic factors, or household conditions. In terms of magnitude, the association is stronger for under-employment than for over-employment. This asymmetry is also robust across alternative operationalisations and most subsample checks. In the sequential models, the over-employment coefficient declines once work-family balance is included, while the under-employment coefficient declines once perceived income sufficiency is added. Importantly, both remain meaningful in all specifications, suggesting that work-hour mismatch is best understood as a dimension of job quality. In practical terms, two individuals may hold similar jobs in the same sector and earn comparable wages, yet if one can adjust working time while the other cannot, their evaluation of employment can differ substantially.

A further contribution of the thesis is to show that welfare regimes are related not only to baseline levels of job satisfaction, but also to the size of the mismatch penalty. Social-democratic countries, which also display the highest average job satisfaction, show relatively small marginal effects for both under-employment and over-employment. This pattern is consistent with the view that more protective welfare arrangements can reduce the subjective costs of undesired hours. By contrast, southern European countries exhibit the most negative association for over-employment, while conservative-corporatist and liberal regimes show stronger under-employment associations. The sequential models estimated within regime groups help clarify possible channels. In central and eastern European countries, the under-employment coefficient declines sharply and becomes statistically indistinguishable from zero once perceived income sufficiency is included, which suggests that economic insecurity plays a central role in that context. In liberal regimes, the over-employment association becomes smaller and less precise after controlling for work-family balance, consistent with the importance of work-life conflict. Taken together, these results suggest that welfare regimes do not simply shift average job satisfaction; they are also associated with how strongly undesired working hours relate to job satisfaction.

Several sensitivity analyses are consistent with these conclusions. Re-estimating the models using alternative definitions of mismatch or handling outliers differently (for example, by winsorising or capping at different levels) yields similar patterns. Excluding Türkiye leaves the core pooled findings intact and does not alter the main conclusion that under-employment and over-employment are negatively associated with job satisfaction. At the same time, excluding Türkiye reduces the marginal effect of over-employment while increasing the marginal effect of under-employment in the southern European regime group. This illustrates a practical issue for regime-based comparisons. Estimated regime patterns can be somewhat sensitive to the composition of regime clusters and to measurement or reporting differences in particular member countries.

Subsample analyses by gender, education, urbanization, survey wave, and chronic illness status are broadly consistent with the main results. The over-employment association remains negative and statistically significant in nearly all subsamples. The under-employment estimates are less precise in some splits, which likely reflects the smaller share of under-employed workers and reduced sample size after stratification. Where under-employment becomes statistically insignificant, the point estimates remain negative, and the overall pattern continues to support the conclusion that work-hour mismatch is associated with lower job satisfaction.

From a policy perspective, the findings suggest that work-hour mismatch constitutes a central dimension of job quality. Its importance lies not only in the number of hours worked, but in whether working time corresponds to workers' preferences. Policies that strengthen workers' capacity to adjust their hours, or that reduce involuntary deviations from preferred schedules, are therefore likely to yield improvements in well-being. Flexible working-time arrangements can help employees better reconcile paid work with their broader life demands. However, flexibility is not inherently beneficial, its effects depend on its design. Flexibility that generates insecurity through unpredictable schedules or weaker employment protection may undermine well-being, whereas flexibility embedded in a framework of job security can enable both workers and employers to adapt to changing needs. The positive associations observed for public-sector employment and permanent contracts support the view that working-time flexibility can be most effective when accompanied by employment stability.

The analysis also suggests that different policy tools may be more relevant for under-employment than for over-employment. For under-employment, the key issue appears to be income insecurity linked to too few hours. Policies that broaden access to social insurance, strengthen minimum income protections, and extend rights and protections to part-time and marginal workers align with this pattern, especially given that the under-employment coefficient weakens once perceived income sufficiency is taken into account. For over-employment, the evidence points more strongly to time strain and work-life conflict. Policies that support work-life balance, such as predictable scheduling, enforceable working-time limits, access to care services, and flexible arrangements that do not reduce protection, are consistent with the reduction in the over-employment association once work-family balance is included. Finally, the observed heterogeneity across regimes suggests that policy priorities may differ across country groups. Where the over-employment penalty is largest, as in southern European settings, limiting excessive hours and improving work-life reconciliation may be particularly important. Where the under-employment penalty is comparatively large, strengthening income protection for workers with insufficient hours may be especially consequential.

To move beyond regime labels and capture variation in the lived experience of welfare provision, the thesis constructs a public service quality index based on respondents' evaluations of multiple service domains. The results show a clear and robust positive association between perceived quality of public services and job satisfaction. This association remains even when controlling for work-hour mismatch and other covariates. When public services function well, the everyday costs of social reproduction, including transport quality, access to health care, care responsibilities, housing pressures, and pension security, can be lower. These reductions in time costs and stress burdens may translate into higher job satisfaction, even holding job characteristics constant.

Evidence for moderation by public service quality is limited. Interaction terms between mismatch and service quality are not statistically significant, so the thesis does not claim definitive causal moderation. However, marginal effects by service-quality level show a consistent pattern in which the mismatch penalty is smaller at higher perceived service-quality levels, especially for over-employment. This pattern is in line with the idea that stronger services may soften the consequences of unwanted long hours by reducing non-work burdens. For under-employment, marginal effects also generally become less negative at higher service quality, although the pattern is less stable across specifications. The most appropriate interpretation is therefore twofold: perceived public service quality is an independent correlate of job satisfaction, and it may be associated with a smaller mismatch penalty, but this buffering interpretation should be treated as suggestive rather than conclusive.

The results should be interpreted in light of several limitations. First, the EQLS provides repeated cross-sections rather than panel data, so the estimates are associative and cannot establish causal effects. Unobserved factors (for example, personality traits or aspirations) may influence both hour preferences and job satisfaction. Second, both actual and desired hours are self-reported, and the desired-hours question explicitly asks respondents to consider income needs. Desired hours may therefore reflect constrained preferences and economic necessity as well as unconstrained tastes, and this interpretation may differ across countries and welfare regimes. Third, welfare regime typologies are stylized summaries of welfare arrangements. While they remain an influential and widely used framework for organizing cross-national comparisons, within-regime heterogeneity can be substantial.

A further limitation is that the analysis relies on relatively old data (EQLS 2012 and 2016). Although these surveys are the most recent waves available for constructing the key variables, they capture labor-market conditions of a specific period. Since then, European labor markets have undergone substantial transformations, notably the expansion of remote and hybrid work following the COVID-19 pandemic and

the rapid diffusion of AI-related technologies. Because comparable post-pandemic data are not available within the framework used in this thesis, the study cannot directly test whether the estimated associations remain unchanged under these newer conditions. The findings should therefore be interpreted as historical evidence for the pre-COVID period. At the same time, the main mechanism motivating the analysis remains plausible: when workers are unable to align actual hours with preferred hours, this is likely to reduce job satisfaction because it reflects limited control over working time and may generate either time pressure (in the case of over-employment) or economic strain (in the case of under-employment). Future research could revisit these questions with newer data sources and later survey waves when they become available, and examine whether more recent labor market transformations strengthen, weaken, or reshape the role of welfare state context.

These limitations also point to directions for future research. In addition to replicating the analysis with newer data when it becomes available, one natural next step would be to link the survey data to country-level indicators, such as measures of social protection, inequality, and working-time regulation, as well as macroeconomic conditions including inflation, unemployment, GDP per capita, and GDP growth, and demographic characteristics such as migration flows and age structure, to test whether specific contextual factors moderate the relationship between work-hour mismatch and job satisfaction. A practical challenge is that such indicators can often be incorporated only at the survey-year level, which limits within-country variation. Nevertheless, this approach is common in the mismatch and subjective wellbeing literature (Başlevent and Kirmanoğlu, 2014; De Moortel et al., 2017; Zhang et al., 2023; Otterbach, 2010) and could help clarify which country characteristics provide the strongest moderating role. Additionally, welfare states differ in their approaches to family models, such as the dual-earner and male-breadwinner models, suggesting that gender differences in the moderating role of welfare states are worth examining. Finally, generational differences could also be explored using available datasets to assess whether the moderating role of welfare states varies across cohorts.

Overall, the results suggest three main conclusions. First, under-employment and over-employment are consistently associated with lower job satisfaction, indicating that mismatched hours are a meaningful correlate of satisfaction. Second, the under-employment association is typically larger than the over-employment association, suggesting that being unable to obtain desired hours is especially detrimental. Third, welfare state context is related to both baseline job satisfaction and the size of the mismatch penalty. More protective contexts, most clearly social-democratic regimes, are associated with smaller mismatch penalties. In addition, higher perceived quality of public services is associated with higher job satisfaction, while the evidence that service quality moderates the mismatch penalty is more limited. These findings

imply that policies aimed at improving job quality should address the alignment between actual and preferred working hours. Strengthening income protection for workers with insufficient hours, enforcing reasonable limits on excessive working time, and expanding access to predictable and secure flexible arrangements may help reduce the well-being costs associated with mismatched hours. At a broader level, higher degrees of de-commodification, together with investments in high-quality public services and stronger social protection systems, appear to play an important role in shaping how workers evaluate their jobs and the extent to which they experience the penalty of work-hour mismatch.

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APPENDICES

Appendix A: Descriptive Analysis

Table A.1: List of Countries Covered in the EQLS 2012 and 2016

Country	EQLS 2012	EQLS 2016
Albania		✓
Austria	✓	✓
Belgium	✓	✓
Bulgaria	✓	✓
Croatia	✓	✓
Cyprus	✓	✓
Czech Republic	✓	✓
Denmark	✓	✓
Estonia	✓	✓
Finland	✓	✓
France	✓	✓
North Macedonia	✓	✓
Germany	✓	✓
Greece	✓	✓
Hungary	✓	✓
Iceland	✓	
Ireland	✓	✓
Italy	✓	✓
Kosovo	✓	
Latvia	✓	✓
Lithuania	✓	✓
Luxembourg	✓	✓
Malta	✓	✓
Montenegro	✓	✓
Netherlands	✓	✓
Poland	✓	✓
Portugal	✓	✓
Romania	✓	✓
Serbia	✓	✓
Slovakia	✓	✓
Slovenia	✓	✓
Spain	✓	✓
Sweden	✓	✓
Türkiye	✓	✓
United Kingdom	✓	✓

Note: Countries that are not covered in both years (such as Albania in 2012, and Iceland and Kosovo in 2016) are not included in the analysis.

Table A.2: List of Variables

Variable	Variable Type in EQLS	Variable Type in the Analysis
Job satisfaction	Could you please tell me on a scale of 1 to 10 how satisfied you are with each of the following items, where 1 means you are very dissatisfied and 10 means you are very satisfied?: Your present job.	Unchanged
Work-hour mismatch	Derived from the difference of two question. **Actual hours** *"How many hours do you normally work per week in your main job, including any paid or unpaid overtime?"* **Desired hours** *"If you could freely choose the number of your working hours while taking into account the need to earn your living, how many hours per week would you prefer to work at present? If you would prefer not to work at all, indicate zero."*	Under-employed if actual - desired < 0 No-mismatch if actual - desired = 0 Over-employed if actual - desired> 0
Gender	· Male · Female	Unchanged
Age	Continuous	Unchanged
Education	· Lower secondary or below · Upper secondary or post-secondary · Tertiary	Unchanged
Household size	Numeric, range 1–10	Unchanged
Urbanization (subjective)	· The open countryside · A village/small town · A medium to large town · A city or city suburb	Unchanged
Contract type	· Unlimited permanent contract · Fixed-term < 12 months · Fixed-term ≥ 12 months · Temporary agency contract · Apprenticeship/training scheme · No written contract · Other	· Permanent contract · Fixed-term contract (merged <12m and ≥12m) · No written contract · Other/missing (agency, apprenticeship, other, Don't know/Refusal/missing)
Occupation	· Manager · Professional · Technician/junior professional · Clerical support worker · Service worker · Sales worker · Skilled agricultural/forestry/fisheries · Craft and related trades · Plant/machine operator or assembler · Elementary occupations · Armed forces occupation	Recoded into ILO skill levels: · Skill level < 3 (Clerical support worker, service worker, sales worker, skilled agricultural/forestry/fisheries, craft and related trades, plant/machine operator or assembler, elementary occupations, armed forces occupation) · Skill level = 3 (Technician/junior professional) · Skill level = 3 & 4 (Manager) · Skill level = 4 (Professional)
Sector	· Central, regional, or local government · Other public sector · Private sector · Other	· Public sector = central/local government + other public sector · Private sector = private sector · Other/unknown = Other, Don't know, Refusal
Work-family balance	· Very well, · Rather well, · Rather not well, · Not at all well	· Well = Very well + Rather well · Not well = Rather not well + Not at all well
Commute time	Numeric	Winsorized at 99th percentile
Feeling tired after work	· Every day, · Several times a week, · Several times a month, · Several times a year, · Less often/rarely, · Never	Used as ordinal scale in regressions
Income sufficiency	· Very easily, · Easily, · Fairly easily, · With some difficulty, · With difficulty, · With great difficulty	Used as ordinal scale in regressions
Chronic health issue	· Yes · No	Unchanged
Perceived quality of public services	Respondents were asked: *"In general, how would you rate the quality of each of the following public services in your country?"*: Health, education, public transport, child care, long-term care, social housing, state pension system. Responses range from 1 (very poor quality) to 10 (very high quality).	The items are aggregated into a composite measure to capture the effect of welfare states at the individual level.

Source: All variables are from the EQLS 2012 and 2016 data.

Table A.3: Job Satisfaction by Country and Welfare Regime

		2012			2016		
Welfare Regime	**Country**	**Mean**	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**
Social-Democratic	Denmark	8.406	1.644	515	8.039	1.840	550
	Finland	8.104	1.634	497	8.104	1.427	451
	Sweden	7.733	1.860	533	7.797	1.815	554
Conservative-Corporatist	Austria	8.026	1.872	563	8.062	2.039	766
	Belgium	7.702	1.527	445	7.496	1.559	436
	Germany	7.600	2.086	1217	7.620	2.083	932
	France	7.298	2.024	1095	7.411	1.906	560
	Luxembourg	7.725	1.960	539	7.726	1.998	575
	Netherlands	7.854	1.424	518	7.676	1.433	500
Liberal	Ireland	7.584	2.037	476	7.926	1.783	435
	United Kingdom	7.533	2.167	1020	7.354	1.985	658
Southern European	Cyprus	7.826	2.133	413	7.252	2.030	425
	Greece	6.662	2.169	368	6.434	2.350	438
	Spain	7.254	1.917	605	7.026	1.837	464
	Italy	7.224	1.779	965	7.076	1.629	917
	Malta	7.606	1.943	458	7.766	1.795	422
	Portugal	7.294	2.068	367	7.553	1.746	516
	Türkiye	6.703	2.696	448	6.632	2.210	729
Central and Eastern European	Bulgaria	6.878	2.371	385	7.423	2.076	486
	Czech Republic	7.412	2.065	535	7.398	1.952	540
	Estonia	7.337	2.081	390	7.667	1.978	496
	Croatia	7.186	2.465	392	6.957	2.144	432
	Hungary	7.070	2.377	441	7.449	2.329	487
	Lithuania	7.397	2.308	446	7.629	2.234	446
	Latvia	7.232	2.264	435	7.558	1.891	443
	Poland	7.014	2.214	866	7.245	2.106	436
	Romania	7.867	2.018	534	7.578	2.116	343
	Slovenia	7.352	1.975	397	7.337	2.141	455
	Slovakia	7.303	2.073	447	7.604	2.193	495
	Montenegro	7.391	2.133	326	6.599	2.305	363
	North Macedonia	6.992	2.315	393	6.455	2.686	314
	Serbia	7.029	2.509	361	6.758	2.151	429

Source: Based on the EQLS 2012 and 2016 data.

Table A.4: Actual and Desired Working Hours by Country and Welfare Regime

Welfare Regime	Country	Hours Worked (Weekly)						Desired Hours (Weekly)					
		2012			2016			2012			2016		
		Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
Social-Democratic	Denmark	37.863	37	9.257	37.081	37	9.848	35.602	37	7.813	31.223	33	10.802
	Finland	39.647	40	9.714	39.615	40	10.583	35.571	38	9.923	34.108	35	9.268
	Sweden	38.549	40	8.928	39.223	40	10.782	35.383	36	8.830	34.739	35	8.507
Conservative-Corporatist	Austria	40.061	40	12.460	37.666	40	12.104	36.388	38	11.072	32.671	35	9.666
	Belgium	38.290	38	11.755	38.160	38	11.641	36.082	38	9.993	33.794	36	10.295
	Germany	38.215	40	10.869	36.791	40	10.340	34.546	37	9.683	31.947	35	9.952
	France	37.219	36	9.887	37.227	37	9.207	35.398	35	8.783	33.212	35	9.993
	Luxembourg	38.048	40	10.106	38.483	40	11.063	34.041	40	11.588	35.045	40	9.660
	Netherlands	35.150	36	12.522	34.235	36	12.260	33.337	32	11.661	31.331	32	9.884
Liberal	Ireland	37.700	39	14.697	37.599	40	13.503	33.767	36	10.720	34.162	35	9.681
	United Kingdom	35.977	38	13.179	36.294	38	12.860	32.607	35	11.068	30.879	30	10.670
Southern European	Cyprus	39.701	38	11.134	40.051	40	9.766	35.041	38	11.730	36.247	38	11.775
	Greece	45.387	40	16.517	45.764	40	15.670	39.557	40	10.798	39.454	40	9.342
	Spain	39.589	40	13.230	40.665	40	13.107	35.159	40	9.253	34.962	36	8.954
	Italy	39.432	40	10.340	39.850	40	10.195	34.707	36	9.936	32.931	35	9.761
	Malta	41.433	40	10.500	41.521	40	11.096	39.620	40	10.818	36.635	40	9.719
	Portugal	43.337	40	12.631	41.013	40	8.432	38.696	40	9.935	34.192	35	9.587
	Türkiye	54.220	50	19.106	44.190	48	19.558	40.027	40	13.744	35.860	36	18.018
Central and Eastern European	Bulgaria	43.930	40	9.392	44.002	40	7.296	40.403	40	9.734	38.659	40	5.563
	Czech Republic	41.487	40	10.200	44.262	42	10.495	36.385	40	11.325	35.278	40	10.157
	Estonia	41.364	40	9.058	40.696	40	9.799	37.408	40	11.738	31.995	36	12.609
	Croatia	44.312	40	9.974	43.145	40	8.885	39.930	40	9.924	35.949	40	11.139
	Hungary	42.337	40	9.202	42.328	40	7.903	37.999	40	8.935	38.100	40	6.685
	Lithuania	41.376	40	9.406	41.456	40	11.837	38.957	40	11.498	36.398	40	15.214
	Latvia	41.664	40	13.144	41.488	40	8.828	37.969	40	13.196	36.481	40	9.651
	Poland	42.670	40	10.411	44.432	40	9.256	39.106	40	10.757	39.085	40	8.003
	Romania	42.087	40	12.029	45.766	40	12.211	40.714	40	12.163	38.073	40	10.426
	Slovenia	42.647	40	7.758	42.578	40	8.872	39.993	40	7.531	35.082	40	10.507
	Slovakia	44.063	40	10.278	43.257	40	8.665	39.091	40	10.565	36.096	40	10.352
	Montenegro	46.489	40	11.311	43.951	45	11.798	39.555	40	10.893	36.529	40	12.428
	North Macedonia	42.777	40	10.509	43.099	40	9.609	36.080	40	12.841	34.080	40	14.213
	Serbia	45.871	40	11.890	44.633	41	8.889	38.225	40	11.138	35.724	40	11.459

Source: Based on the EQLS 2012 and 2016 data.

Table A.5: Work-Hour Mismatch by Country and Welfare Regime (%)

Welfare Regime	Country	2012			2016		
		Under-employed	No-mismatch	Over-employed	Under-employed	No-mismatch	Over-employed
Social-Democratic	Denmark	12.62	53.70	33.68	10.35	35.33	54.32
	Finland	10.30	44.81	44.90	8.51	37.62	53.87
	Sweden	13.13	41.18	45.69	9.50	32.90	57.60
Conservative-Corporatist	Austria	8.51	58.22	33.27	13.02	37.79	49.19
	Belgium	15.95	51.08	32.97	11.68	40.07	48.25
	Germany	14.58	37.10	48.32	11.94	31.91	56.15
	France	22.48	42.47	35.05	16.74	35.95	47.31
	Luxembourg	8.40	55.40	36.20	13.90	41.99	44.10
	Netherlands	17.78	50.05	32.17	17.48	37.01	45.50
Liberal	Ireland	18.23	34.05	47.73	18.04	35.71	46.25
	United Kingdom	15.34	42.47	42.19	15.83	29.51	54.66
Southern European	Cyprus	14.33	44.32	41.35	17.47	36.56	45.97
	Greece	17.45	32.83	49.72	16.93	33.44	49.63
	Spain	14.69	34.18	51.13	11.44	35.42	53.13
	Italy	11.23	40.15	48.62	7.66	34.47	57.87
	Malta	18.24	50.60	31.15	12.77	44.29	42.94
	Portugal	13.15	47.94	38.90	5.66	36.02	58.32
	Türkiye	7.89	20.40	71.71	14.38	16.05	69.57
Central and Eastern European	Bulgaria	13.27	50.20	36.54	1.99	52.27	45.74
	Czech Republic	8.13	40.25	51.62	4.72	29.26	66.02
	Estonia	11.00	51.53	37.47	6.03	39.22	54.75
	Croatia	8.98	53.60	37.42	7.21	33.59	59.20
	Hungary	10.19	46.76	43.04	5.97	50.34	43.70
	Lithuania	17.35	53.66	28.99	13.86	42.69	43.44
	Latvia	18.56	43.29	38.15	8.33	45.77	45.90
	Poland	13.72	53.17	33.11	3.26	50.02	46.72
	Romania	20.55	49.23	30.22	7.10	36.44	56.46
	Slovenia	7.98	59.88	32.14	6.59	41.90	51.51
	Slovakia	9.77	42.20	48.03	4.65	39.93	55.42
	Montenegro	7.75	41.86	50.38	7.87	29.91	62.22
	North Macedonia	8.61	35.54	55.86	7.51	40.32	52.16
	Serbia	8.93	41.35	49.72	6.38	27.24	66.38

Source: Based on the EQLS 2012 and 2016 data.

Table A.6: Average Job Satisfaction by Work-Hour Mismatch Category, Country, and Welfare Regime

Welfare Regime	Country	2012			2016		
		Under-employed	No-mismatch	Over-employed	Under-employed	No-mismatch	Over-employed
Social-Democratic	Denmark	8.108	8.420	8.495	7.547	8.294	7.966
	Finland	7.323	8.260	8.128	7.671	8.251	8.069
	Sweden	7.254	8.148	7.497	7.623	7.992	7.714
Conservative-Corporatist	Austria	7.708	8.227	7.756	7.677	8.355	7.938
	Belgium	7.564	7.793	7.627	7.064	7.619	7.499
	Germany	7.259	7.778	7.567	6.948	8.031	7.529
	France	7.009	7.523	7.210	6.886	7.718	7.363
	Luxembourg	7.481	7.930	7.467	7.188	8.021	7.614
	Netherlands	7.339	8.212	7.581	7.253	7.878	7.674
Liberal	Ireland	7.488	7.787	7.475	7.499	8.321	7.787
	United Kingdom	7.279	7.652	7.505	7.059	7.868	7.161
Southern European	Cyprus	6.875	8.224	7.728	7.089	7.633	7.010
	Greece	6.121	7.395	6.368	5.025	7.063	6.490
	Spain	6.690	7.569	7.206	6.606	7.479	6.813
	Italy	6.459	7.450	7.213	6.568	7.271	7.027
	Malta	7.187	7.835	7.479	7.938	7.931	7.545
	Portugal	6.961	7.660	6.956	6.176	8.041	7.385
	Türkiye	6.271	7.789	6.441	6.894	7.892	6.287
Central and Eastern European	Bulgaria	7.043	7.039	6.597	6.870	7.454	7.411
	Czech Republic	7.067	7.580	7.335	7.137	7.374	7.428
	Estonia	7.724	7.530	6.956	7.910	7.886	7.484
	Croatia	7.649	7.625	6.445	7.007	7.164	6.834
	Hungary	5.760	7.422	6.997	6.815	7.405	7.587
	Lithuania	7.112	7.618	7.159	7.445	7.906	7.417
	Latvia	7.452	7.542	6.773	7.449	7.593	7.544
	Poland	6.480	7.158	7.004	6.940	7.540	6.951
	Romania	8.100	8.023	7.452	7.355	8.404	7.073
	Slovenia	7.382	7.631	6.824	7.710	7.228	7.378
	Slovakia	6.646	7.680	7.105	6.399	8.060	7.378
	Montenegro	7.215	7.890	7.003	6.913	7.141	6.299
	North Macedonia	6.756	7.429	6.750	5.613	7.372	5.867
	Serbia	6.582	7.725	6.531	6.630	7.021	6.663

Source: Based on the EQLS 2012 and 2016 data.

Table A.7: Average Actual and Desired Working Hours by Work-Hour Mismatch Category, Country, and Welfare Regime

Welfare Regime	Country	2012						2016					
		Hours Worked (Weekly)			Desired Hours (Weekly)			Hours Worked (Weekly)			Desired Hours (Weekly)		
		Under-employed	No-mismatch	Over-employed	Under-employed	No-mismatch	Over-employed	Under-employed	No-mismatch	Over-employed	Under-employed	No-mismatch	Over-employed
Social-Democratic	Denmark	30.394	36.719	42.486	38.518	36.719	32.727	28.097	34.412	40.528	36.934	34.412	28.061
	Finland	30.879	38.169	43.132	40.397	38.169	31.870	28.648	37.390	42.903	38.801	37.390	31.074
	Sweden	28.245	37.949	42.049	41.294	37.949	31.373	23.003	37.365	42.961	37.547	37.365	32.776
Conservative-Corporatist	Austria	26.605	38.267	46.645	37.106	38.267	32.915	27.007	33.007	44.066	35.028	33.007	31.789
	Belgium	28.988	37.395	44.180	38.610	37.395	32.825	27.063	35.294	43.227	36.811	35.294	31.818
	Germany	25.989	36.810	42.985	36.555	36.810	32.201	26.973	34.134	40.389	36.258	34.134	29.787
	France	30.289	36.123	42.992	39.089	36.123	32.152	29.448	35.444	41.334	38.118	35.444	29.780
	Luxembourg	27.647	36.501	42.830	38.394	36.501	29.265	25.855	36.606	44.250	39.420	36.606	32.178
	Netherlands	25.595	34.571	41.332	35.806	34.571	30.053	22.195	32.866	39.975	32.138	32.866	29.773
Liberal	Ireland	22.522	34.478	45.796	35.780	34.478	32.492	22.522	35.576	45.042	35.108	35.576	32.702
	United Kingdom	23.789	34.167	42.230	36.082	34.167	29.773	23.463	32.291	42.172	35.174	32.291	28.873
Southern European	Cyprus	28.490	38.349	45.036	43.452	38.349	28.580	31.437	38.292	44.723	46.235	38.292	30.824
	Greece	30.419	39.606	54.457	45.254	39.606	37.525	30.992	39.919	54.739	45.433	39.919	37.102
	Spain	23.258	37.142	45.916	38.885	37.142	32.762	22.112	37.665	46.662	37.520	37.665	32.609
	Italy	26.849	37.645	43.815	40.498	37.645	30.942	25.739	36.712	43.587	37.445	36.712	30.081
	Malta	36.292	40.311	46.268	48.958	40.311	33.030	33.529	38.137	47.387	44.955	38.137	32.612
	Portugal	35.344	39.943	50.222	46.613	39.943	34.483	25.477	38.869	43.846	40.035	38.869	30.736
	Türkiye	28.418	46.945	59.127	49.796	46.945	36.985	20.778	40.279	49.932	52.876	40.279	31.323
Central and Eastern European	Bulgaria	37.155	40.686	50.846	51.625	40.686	35.940	34.192	40.506	48.424	44.878	40.506	36.277
	Czech Republic	32.009	40.023	44.123	46.184	40.023	32.005	32.765	39.756	47.081	42.826	39.756	32.754
	Estonia	36.151	39.445	45.533	51.977	39.445	30.331	29.092	38.277	43.706	41.891	38.277	26.405
	Croatia	38.498	40.887	50.614	52.639	40.887	35.508	29.170	40.083	46.584	46.937	40.083	32.265
	Hungary	30.077	40.343	47.406	46.064	40.343	33.542	32.462	39.956	46.407	42.076	39.956	35.419
	Lithuania	34.162	40.846	46.674	46.620	40.846	30.878	29.656	41.631	45.050	46.381	41.631	28.069
	Latvia	32.692	39.647	48.317	49.287	39.647	30.561	31.106	39.973	44.882	44.513	39.973	31.541
	Poland	36.279	39.992	49.620	49.735	39.992	33.277	31.874	40.835	49.159	41.685	40.835	37.031
	Romania	34.155	41.224	48.887	49.762	41.224	33.732	36.524	40.407	50.387	49.123	40.407	35.177
	Slovenia	34.732	40.946	47.783	49.743	40.946	35.799	33.887	39.110	46.510	46.609	39.110	30.330
	Slovakia	36.194	40.520	48.778	50.548	40.520	35.504	33.522	40.615	45.979	44.158	40.615	32.163
	Montenegro	37.637	40.661	52.693	55.641	40.661	36.161	29.738	39.682	47.801	49.436	39.682	33.379
	North Macedonia	36.550	40.098	45.441	49.231	40.098	31.498	35.962	40.371	46.236	47.100	40.371	27.340
	Serbia	32.950	40.962	52.275	48.297	40.962	34.139	32.870	40.034	47.651	49.476	40.034	32.634

Source: Based on the EQLS 2012 and 2016 data.

Table A.8: Perceived Quality of Public Services by Welfare Regime and Year

	2012			2016		
	Mean	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**
Social-Democratic						
Quality of public services index	47.98	8.75	975	49.21	8.80	936
Quality of health services	7.26	1.80	975	7.52	1.70	936
Quality of education services	7.72	1.54	975	7.84	1.48	936
Quality of public transport	6.59	1.84	975	6.86	1.81	936
Quality of childcare services	7.43	1.48	975	7.62	1.52	936
Quality of long-term care services	6.31	1.83	975	6.51	1.75	936
Quality of social housing	6.56	1.62	975	6.62	1.70	936
Quality of pension system	6.11	2.06	975	6.24	2.08	936
Conservative-Corporatist						
Quality of public services index	45.54	8.99	2,259	48.01	9.84	2,226
Quality of health services	7.11	1.73	2,259	7.55	1.77	2,226
Quality of education services	6.71	1.71	2,259	7.21	1.74	2,226
Quality of public transport	6.83	1.74	2,259	7.07	1.83	2,226
Quality of childcare services	6.57	1.80	2,259	7.16	1.76	2,226
Quality of long-term care services	6.54	1.75	2,259	6.88	1.88	2,226
Quality of social housing	6.21	1.83	2,259	6.36	1.93	2,226
Quality of pension system	5.57	2.11	2,259	5.78	2.22	2,226
Liberal						
Quality of public services index	40.16	10.08	481	42.15	11.64	444
Quality of health services	5.86	2.40	481	6.38	2.22	444
Quality of education services	6.72	1.87	481	7.05	1.74	444
Quality of public transport	5.86	2.08	481	6.09	2.22	444
Quality of childcare services	5.99	1.97	481	6.13	2.14	444
Quality of long-term care services	5.38	2.07	481	5.69	2.28	444
Quality of social housing	5.35	1.96	481	5.28	2.23	444
Quality of pension system	5.00	2.25	481	5.52	2.25	444
Southern European						
Quality of public services index	39.44	11.67	1,941	40.46	12.37	2,560
Quality of health services	5.87	2.17	1,941	6.10	2.27	2,560
Quality of education services	5.98	2.04	1,941	6.25	2.01	2,560
Quality of public transport	5.68	2.12	1,941	6.05	2.04	2,560
Quality of childcare services	6.03	2.10	1,941	6.15	2.03	2,560
Quality of long-term care services	5.68	2.19	1,941	5.74	2.20	2,560
Quality of social housing	5.34	2.25	1,941	5.39	2.29	2,560
Quality of pension system	4.86	2.38	1,941	4.77	2.48	2,560
Central and Eastern European						
Quality of public services index	36.30	11.60	3,490	39.55	12.15	3,774
Quality of health services	5.28	2.26	3,490	5.73	2.30	3,774
Quality of education services	5.89	2.13	3,490	6.15	2.11	3,774
Quality of public transport	5.78	2.14	3,490	6.27	2.14	3,774
Quality of childcare services	5.79	2.16	3,490	6.36	2.07	3,774
Quality of long-term care services	5.12	2.16	3,490	5.63	2.23	3,774
Quality of social housing	4.47	2.22	3,490	5.06	2.35	3,774
Quality of pension system	3.97	2.25	3,490	4.34	2.39	3,774

Source: Based on the EQLS 2012 and 2016 data.

Appendix B: Empirical Analysis

Table B.1: Job Satisfaction and Work-Hour Mismatch: Ordered Logit Models

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.412***	-1.426***	-1.615***	-1.664***	-1.642***	-1.689***	-1.598***	-1.083***	-1.087***	-0.889***
	(0.161)	(0.147)	(0.145)	(0.146)	(0.144)	(0.144)	(0.144)	(0.148)	(0.150)	(0.165)
Under-employment	-2.174***	-1.881***	-1.942***	-1.916***	-1.936***	-1.805***	-1.206***	-1.246***	-1.225***	-1.419***
	(0.517)	(0.516)	(0.493)	(0.473)	(0.469)	(0.476)	(0.407)	(0.445)	(0.442)	(0.458)
Age/10		-0.388***	-0.483***	-0.517***	-0.527***	-0.520***	-0.333***	-0.291***	-0.297***	-0.248***
		(0.065)	(0.071)	(0.073)	(0.073)	(0.074)	(0.077)	(0.079)	(0.079)	(0.078)
Age squared		0.054***	0.062***	0.065***	0.065***	0.065***	0.043***	0.037***	0.038***	0.032***
		(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.021	0.016	0.023	0.003	0.004	0.049*	0.044	0.047*	0.076***
		(0.027)	(0.026)	(0.025)	(0.025)	(0.026)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.234***	0.172***	0.168***	0.164***	0.171***	0.089*	0.090*	0.088*	0.070
		(0.057)	(0.056)	(0.055)	(0.054)	(0.056)	(0.051)	(0.050)	(0.050)	(0.050)
Education = 3, Tertiary		0.639***	0.303***	0.304***	0.281***	0.301***	0.114**	0.111**	0.109**	0.089*
		(0.067)	(0.063)	(0.062)	(0.058)	(0.061)	(0.053)	(0.051)	(0.052)	(0.050)
Household size		0.039***	0.036***	0.036***	0.035***	0.037***	0.051***	0.057***	0.056***	0.054***
		(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Urbanization = 2, Village/town		-0.127***	-0.145***	-0.141***	-0.139***	-0.137***	-0.127***	-0.132***	-0.138***	-0.129***
		(0.043)	(0.042)	(0.042)	(0.042)	(0.039)	(0.042)	(0.042)	(0.043)	(0.043)
Urbanization = 3, Medium town		-0.121***	-0.147***	-0.139***	-0.140***	-0.144***	-0.124***	-0.120***	-0.125***	-0.115***
		(0.037)	(0.036)	(0.036)	(0.036)	(0.035)	(0.037)	(0.035)	(0.035)	(0.036)
Urbanization = 4, City		-0.228***	-0.263***	-0.259***	-0.254***	-0.229***	-0.215***	-0.218***	-0.224***	-0.212***
		(0.044)	(0.044)	(0.044)	(0.045)	(0.043)	(0.046)	(0.047)	(0.047)	(0.048)
Occupation = 1, Skill level < 3			-0.558***	-0.548***	-0.508***	-0.516***	-0.426***	-0.420***	-0.422***	-0.433***
			(0.050)	(0.050)	(0.049)	(0.049)	(0.049)	(0.046)	(0.047)	(0.047)
Occupation = 2, Skill level = 3			-0.281***	-0.276***	-0.250***	-0.245***	-0.206***	-0.218***	-0.215***	-0.229***
			(0.048)	(0.048)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)	(0.045)
Occupation = 3, Skill level 3-4			0.266***	0.249***	0.305***	0.288***	0.210***	0.227***	0.231***	0.226***
			(0.070)	(0.070)	(0.074)	(0.076)	(0.070)	(0.072)	(0.072)	(0.070)
Contract type = 1, Permanent				0.245***	0.248***	0.246***	0.182***	0.162***	0.161***	0.161***
				(0.058)	(0.058)	(0.059)	(0.054)	(0.054)	(0.054)	(0.052)
Contract type = 3, No written				0.158	0.198**	0.166*	0.121	0.099	0.097	0.098
				(0.095)	(0.096)	(0.101)	(0.101)	(0.106)	(0.107)	(0.104)
Contract type = 4, Other				0.376***	0.424***	0.397***	0.348***	0.344***	0.342***	0.333***
				(0.072)	(0.075)	(0.080)	(0.074)	(0.075)	(0.075)	(0.074)
Sector = 2, Private sector					-0.201***	-0.196***	-0.212***	-0.191***	-0.194***	-0.189***
					(0.048)	(0.048)	(0.046)	(0.046)	(0.046)	(0.045)
Sector = 3, Other/unknown					-0.197**	-0.202**	-0.206***	-0.181**	-0.182**	-0.168**
					(0.084)	(0.079)	(0.076)	(0.078)	(0.079)	(0.080)
Commute						-0.023***	-0.017***	-0.012***	-0.012***	-0.009**
						(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.385***	-0.361***	-0.355***	-0.335***
							(0.023)	(0.023)	(0.023)	(0.024)
Work-family balance = 2, Well								0.573***	0.569***	0.477***
								(0.042)	(0.042)	(0.042)
Chronic illness = 1, Yes									-0.169***	-0.135***
									(0.041)	(0.043)
Tired job										0.134***
										(0.014)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
Pseudo R-squared	0.010	0.015	0.020	0.020	0.021	0.021	0.034	0.038	0.038	0.040

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). Coefficients are from ordered logistic regressions.

Table B.2: Job Satisfaction and Work-Hour Mismatch: Baseline and Extended Models (Türkiye excluded)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.600***	-1.624***	-1.804***	-1.820***	-1.794***	-1.827***	-1.685***	-1.068***	-1.062***	-0.845***
	(0.154)	(0.140)	(0.135)	(0.123)	(0.123)	(0.129)	(0.132)	(0.116)	(0.115)	(0.122)
Under-employment	-3.302***	-2.927***	-2.891***	-2.786***	-2.806***	-2.650***	-1.792***	-1.856***	-1.817***	-2.083***
	(0.531)	(0.519)	(0.541)	(0.534)	(0.527)	(0.496)	(0.479)	(0.508)	(0.506)	(0.505)
Age/10		-0.374***	-0.464***	-0.513***	-0.523***	-0.504***	-0.301***	-0.249***	-0.253***	-0.201**
		(0.072)	(0.081)	(0.083)	(0.083)	(0.087)	(0.085)	(0.084)	(0.084)	(0.083)
Age squared		0.052***	0.060***	0.064***	0.064***	0.062***	0.039***	0.032***	0.034***	0.027***
		(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Gender = 2, Female		-0.052*	-0.010	-0.005	-0.023	-0.025	0.023	0.020	0.026	0.056*
		(0.027)	(0.027)	(0.025)	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary or post-secondary		0.294***	0.222***	0.212***	0.207***	0.211***	0.123**	0.128**	0.125**	0.105*
		(0.068)	(0.067)	(0.065)	(0.064)	(0.064)	(0.057)	(0.055)	(0.055)	(0.055)
Education = 3, Tertiary		0.761***	0.380***	0.373***	0.350***	0.364***	0.158***	0.158***	0.153***	0.128**
		(0.080)	(0.075)	(0.072)	(0.068)	(0.069)	(0.056)	(0.053)	(0.054)	(0.051)
Household size		0.040***	0.038***	0.038***	0.037***	0.039***	0.050***	0.057***	0.056***	0.054***
		(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.159***	-0.176***	-0.174***	-0.172***	-0.165***	-0.144***	-0.142***	-0.150***	-0.143***
		(0.047)	(0.044)	(0.044)	(0.043)	(0.041)	(0.044)	(0.043)	(0.045)	(0.045)
Urbanization = 3, A medium to large town		-0.122***	-0.143***	-0.138***	-0.138***	-0.135***	-0.103**	-0.094**	-0.102***	-0.095**
		(0.038)	(0.038)	(0.037)	(0.038)	(0.037)	(0.038)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.259***	-0.297***	-0.296***	-0.289***	-0.261***	-0.235***	-0.231***	-0.239***	-0.229***
		(0.041)	(0.038)	(0.036)	(0.036)	(0.034)	(0.038)	(0.038)	(0.039)	(0.040)
Occupation = 1, Skill level < 3			-0.626***	-0.618***	-0.580***	-0.585***	-0.464***	-0.450***	-0.454***	-0.461***
			(0.059)	(0.058)	(0.055)	(0.054)	(0.053)	(0.050)	(0.051)	(0.049)
Occupation = 2, Skill level = 3			-0.265***	-0.266***	-0.241***	-0.232***	-0.184***	-0.196***	-0.194***	-0.206***
			(0.046)	(0.046)	(0.043)	(0.044)	(0.042)	(0.041)	(0.042)	(0.041)
Occupation = 3, Skill level = 3 & 4			0.233***	0.219***	0.271***	0.246***	0.159**	0.174**	0.174**	0.169**
			(0.066)	(0.066)	(0.070)	(0.070)	(0.064)	(0.065)	(0.065)	(0.064)
Contract type = 1, Permanent contract				0.306***	0.308***	0.303***	0.230***	0.207***	0.206***	0.206***
				(0.072)	(0.071)	(0.072)	(0.064)	(0.064)	(0.063)	(0.061)
Contract type = 3, No written contract				0.139	0.179*	0.149	0.112	0.084	0.080	0.087
				(0.106)	(0.105)	(0.110)	(0.106)	(0.107)	(0.108)	(0.105)
Contract type = 4, Other/missing				0.365***	0.412***	0.378***	0.321***	0.318***	0.314***	0.303***
				(0.087)	(0.088)	(0.094)	(0.085)	(0.086)	(0.086)	(0.083)
Sector = 2, Private sector					-0.191***	-0.189***	-0.196***	-0.168***	-0.171***	-0.168***
					(0.048)	(0.047)	(0.044)	(0.044)	(0.044)	(0.043)
Sector = 3, Other/unknown					-0.212**	-0.222**	-0.214**	-0.185**	-0.183**	-0.169*
					(0.091)	(0.088)	(0.081)	(0.083)	(0.083)	(0.083)
Commute/10 (Winsorised (0.01))						-0.025***	-0.018***	-0.012***	-0.012***	-0.008**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.405***	-0.373***	-0.365***	-0.344***
							(0.027)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.668***	0.661***	0.561***
								(0.053)	(0.053)	(0.052)
Chronic illness = 1, Yes									-0.210***	-0.172***
									(0.050)	(0.051)
Tired job										0.141***
										(0.014)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	32,706	32,498	32,369	32,369	32,369	31,178	30,946	30,823	30,718	30,623
R-squared	0.038	0.058	0.073	0.075	0.077	0.078	0.122	0.138	0.139	0.148

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.3: Job Satisfaction and Work-Hour Mismatch: Baseline and Extended Specifications (Continuous Hours)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.017***	-0.018***	-0.019***	-0.020***	-0.019***	-0.019***	-0.018***	-0.012***	-0.012***	-0.010***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Under-employment	-0.025***	-0.022***	-0.023***	-0.022***	-0.022***	-0.020***	-0.015***	-0.015***	-0.014***	-0.016***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Age/10		-0.365***	-0.456***	-0.500***	-0.510***	-0.498***	-0.293***	-0.238***	-0.243***	-0.191**
		(0.068)	(0.077)	(0.079)	(0.080)	(0.083)	(0.080)	(0.080)	(0.080)	(0.079)
Age squared		0.051***	0.059***	0.063***	0.063***	0.062***	0.038***	0.031***	0.032***	0.026***
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.042	-0.004	0.002	-0.017	-0.019	0.030	0.026	0.033	0.062**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.305***	0.233***	0.226***	0.220***	0.230***	0.140**	0.144**	0.142**	0.122**
		(0.064)	(0.064)	(0.062)	(0.061)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.773***	0.397***	0.393***	0.367***	0.388***	0.178***	0.177***	0.172***	0.148***
		(0.077)	(0.073)	(0.071)	(0.067)	(0.070)	(0.057)	(0.054)	(0.054)	(0.053)
Household size		0.036***	0.033***	0.033***	0.032***	0.034***	0.045***	0.053***	0.052***	0.050***
		(0.011)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.151***	-0.167***	-0.163***	-0.160***	-0.153***	-0.132***	-0.132***	-0.140***	-0.134***
		(0.047)	(0.044)	(0.044)	(0.044)	(0.042)	(0.045)	(0.044)	(0.046)	(0.045)
Urbanization = 3, A medium to large town		-0.129***	-0.152***	-0.145***	-0.144***	-0.144***	-0.111***	-0.100**	-0.108***	-0.101**
		(0.039)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.237***	-0.273***	-0.269***	-0.262***	-0.232***	-0.204***	-0.198***	-0.206***	-0.197***
		(0.046)	(0.045)	(0.045)	(0.046)	(0.045)	(0.049)	(0.050)	(0.050)	(0.051)
Occupation = 1, Skill level < 3			-0.620***	-0.610***	-0.568***	-0.573***	-0.454***	-0.442***	-0.445***	-0.452***
			(0.057)	(0.057)	(0.055)	(0.054)	(0.052)	(0.049)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.279***	-0.278***	-0.250***	-0.241***	-0.191***	-0.203***	-0.201***	-0.213***
			(0.047)	(0.046)	(0.043)	(0.044)	(0.042)	(0.041)	(0.042)	(0.041)
Occupation = 3, Skill level = 3 & 4			0.241***	0.223***	0.282***	0.260***	0.163**	0.178***	0.178***	0.175***
			(0.063)	(0.063)	(0.067)	(0.068)	(0.061)	(0.062)	(0.062)	(0.060)
Contract type = 1, Permanent contract				0.301***	0.305***	0.298***	0.223***	0.200***	0.198***	0.200***
				(0.069)	(0.069)	(0.070)	(0.062)	(0.062)	(0.062)	(0.059)
Contract type = 3, No written contract				0.188*	0.230**	0.200*	0.160	0.135	0.133	0.133
				(0.105)	(0.105)	(0.110)	(0.103)	(0.106)	(0.107)	(0.102)
Contract type = 4, Other/missing				0.385***	0.437***	0.406***	0.344***	0.340***	0.338***	0.328***
				(0.085)	(0.088)	(0.094)	(0.084)	(0.085)	(0.085)	(0.083)
Sector = 2, Private sector					-0.213***	-0.211***	-0.218***	-0.188***	-0.192***	-0.188***
					(0.052)	(0.051)	(0.049)	(0.048)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.238**	-0.247***	-0.239***	-0.201**	-0.201**	-0.183**
					(0.091)	(0.088)	(0.081)	(0.081)	(0.081)	(0.080)
Commute/10						-0.026***	-0.019***	-0.013***	-0.013***	-0.010**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.411***	-0.379***	-0.372***	-0.351***
							(0.027)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.663***	0.657***	0.558***
								(0.050)	(0.050)	(0.050)
Chronic illness = 1, Yes									-0.213***	-0.177***
									(0.048)	(0.050)
Tired job										0.139***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.042	0.061	0.076	0.079	0.081	0.082	0.127	0.143	0.144	0.152

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.4: Job Satisfaction and Work-Hour Mismatch (Winsorized at 99th Percentile): Baseline and Extended Specifications

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.019***	-0.019***	-0.021***	-0.021***	-0.021***	-0.021***	-0.020***	-0.013***	-0.013***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Under-employment	-0.034***	-0.030***	-0.030***	-0.030***	-0.030***	-0.028***	-0.020***	-0.020***	-0.020***	-0.022***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Age/10		-0.368***	-0.460***	-0.502***	-0.512***	-0.501***	-0.296***	-0.242***	-0.247***	-0.194**
		(0.070)	(0.078)	(0.080)	(0.081)	(0.084)	(0.081)	(0.081)	(0.081)	(0.080)
Age squared		0.051***	0.059***	0.063***	0.063***	0.062***	0.038***	0.032***	0.033***	0.026***
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.039	-0.001	0.005	-0.014	-0.016	0.032	0.029	0.035	0.065**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.302***	0.232***	0.225***	0.219***	0.229***	0.140**	0.143**	0.141**	0.122**
		(0.064)	(0.063)	(0.062)	(0.060)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.767***	0.394***	0.391***	0.365***	0.385***	0.177***	0.176***	0.171***	0.147***
		(0.076)	(0.072)	(0.071)	(0.066)	(0.070)	(0.057)	(0.054)	(0.054)	(0.053)
Household size		0.036***	0.033***	0.032***	0.031***	0.034***	0.045***	0.053***	0.052***	0.050***
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.151***	-0.167***	-0.163***	-0.160***	-0.153***	-0.132***	-0.132***	-0.140***	-0.133***
		(0.047)	(0.045)	(0.045)	(0.044)	(0.042)	(0.045)	(0.044)	(0.046)	(0.046)
Urbanization = 3, A medium to large town		-0.129***	-0.151***	-0.144***	-0.144***	-0.143***	-0.110***	-0.099***	-0.108***	-0.101***
		(0.039)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.237***	-0.273***	-0.270***	-0.262***	-0.233***	-0.205***	-0.199***	-0.207***	-0.197***
		(0.045)	(0.045)	(0.044)	(0.045)	(0.044)	(0.049)	(0.050)	(0.050)	(0.050)
Occupation = 1, Skill level < 3			-0.618***	-0.608***	-0.566***	-0.572***	-0.454***	-0.441***	-0.444***	-0.452***
			(0.058)	(0.057)	(0.055)	(0.054)	(0.053)	(0.050)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.280***	-0.278***	-0.250***	-0.241***	-0.191***	-0.203***	-0.201***	-0.213***
			(0.047)	(0.046)	(0.043)	(0.044)	(0.042)	(0.041)	(0.042)	(0.041)
Occupation = 3, Skill level = 3 & 4			0.237***	0.219***	0.278***	0.256***	0.161***	0.176***	0.176***	0.172***
			(0.063)	(0.063)	(0.067)	(0.068)	(0.061)	(0.062)	(0.062)	(0.060)
Contract type = 1, Permanent contract				0.294***	0.298***	0.292***	0.218***	0.195***	0.194***	0.194***
				(0.069)	(0.069)	(0.070)	(0.062)	(0.063)	(0.063)	(0.059)
Contract type = 3, No written contract				0.190*	0.232**	0.203*	0.163	0.137	0.135	0.135
				(0.104)	(0.105)	(0.109)	(0.103)	(0.105)	(0.106)	(0.102)
Contract type = 4, Other/missing				0.381***	0.433***	0.402***	0.340***	0.338***	0.335***	0.324***
				(0.084)	(0.086)	(0.093)	(0.083)	(0.085)	(0.085)	(0.082)
Sector = 2, Private sector					-0.213***	-0.211***	-0.218***	-0.188***	-0.192***	-0.188***
					(0.052)	(0.051)	(0.049)	(0.048)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.238***	-0.247***	-0.240***	-0.203**	-0.203**	-0.185**
					(0.091)	(0.089)	(0.081)	(0.081)	(0.081)	(0.081)
Commute/10						-0.026***	-0.019***	-0.013***	-0.013***	-0.010**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.409***	-0.377***	-0.369***	-0.348***
							(0.026)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.665***	0.658***	0.560***
								(0.050)	(0.050)	(0.049)
Chronic illness = 1, Yes									-0.212***	-0.175***
									(0.048)	(0.049)
Tired job										0.140***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.044	0.063	0.078	0.080	0.082	0.083	0.128	0.144	0.145	0.153

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.5: Job Satisfaction and Work-Hour Mismatch (Winsorized at 95th percentile): Baseline and Extended Specifications

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment (Winsorized 95)	-0.024***	-0.024***	-0.027***	-0.027***	-0.027***	-0.027***	-0.024***	-0.017***	-0.017***	-0.014***
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Under-employment (Winsorized 95)	-0.068***	-0.061***	-0.060***	-0.059***	-0.059***	-0.055***	-0.040***	-0.040***	-0.040***	-0.043***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)
Age/10		-0.367***	-0.460***	-0.498***	-0.507***	-0.497***	-0.294***	-0.242***	-0.247***	-0.195**
		(0.070)	(0.078)	(0.080)	(0.081)	(0.084)	(0.082)	(0.081)	(0.081)	(0.080)
Age squared		0.051***	0.059***	0.062***	0.063***	0.062***	0.038***	0.031***	0.033***	0.026***
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.036	0.001	0.007	-0.012	-0.014	0.033	0.030	0.036	0.066**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.302***	0.233***	0.227***	0.221***	0.231***	0.142**	0.145**	0.143***	0.123**
		(0.063)	(0.063)	(0.061)	(0.060)	(0.062)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.766***	0.395***	0.393***	0.367***	0.388***	0.181***	0.179***	0.175***	0.150***
		(0.076)	(0.072)	(0.070)	(0.066)	(0.070)	(0.057)	(0.054)	(0.055)	(0.053)
Household size		0.036***	0.033***	0.032***	0.031***	0.034***	0.045***	0.053***	0.052***	0.050***
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.150***	-0.165***	-0.162***	-0.158***	-0.151***	-0.131***	-0.131***	-0.139***	-0.132***
		(0.047)	(0.045)	(0.045)	(0.044)	(0.043)	(0.045)	(0.044)	(0.046)	(0.046)
Urbanization = 3, A medium to large town		-0.128***	-0.150***	-0.143***	-0.143***	-0.141***	-0.109***	-0.099***	-0.108***	-0.101***
		(0.039)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.235***	-0.270***	-0.267***	-0.259***	-0.230***	-0.202***	-0.197***	-0.205***	-0.196***
		(0.046)	(0.045)	(0.045)	(0.046)	(0.045)	(0.049)	(0.050)	(0.050)	(0.051)
Occupation = 1, Skill level < 3			-0.617***	-0.607***	-0.565***	-0.571***	-0.455***	-0.444***	-0.447***	-0.451***
			(0.058)	(0.058)	(0.056)	(0.054)	(0.053)	(0.051)	(0.051)	(0.049)
Occupation = 2, Skill level = 3			-0.281***	-0.279***	-0.251***	-0.242***	-0.193***	-0.204***	-0.202***	-0.213***
			(0.047)	(0.046)	(0.043)	(0.044)	(0.042)	(0.042)	(0.042)	(0.041)
Occupation = 3, Skill level = 3 & 4			0.234***	0.217***	0.275***	0.253***	0.160***	0.174***	0.174***	0.169***
			(0.064)	(0.064)	(0.068)	(0.068)	(0.062)	(0.063)	(0.063)	(0.061)
Contract type = 1, Permanent contract				0.287***	0.290***	0.284***	0.213***	0.190***	0.189***	0.189***
				(0.068)	(0.068)	(0.069)	(0.061)	(0.062)	(0.062)	(0.058)
Contract type = 3, No written contract				0.188*	0.230**	0.201**	0.162	0.136	0.134	0.133
				(0.105)	(0.105)	(0.110)	(0.103)	(0.106)	(0.107)	(0.102)
Contract type = 4, Other/missing				0.380***	0.431***	0.401***	0.341***	0.339***	0.337***	0.323***
				(0.082)	(0.085)	(0.091)	(0.083)	(0.085)	(0.085)	(0.081)
Sector = 2, Private sector					-0.211***	-0.209***	-0.216***	-0.187***	-0.191***	-0.188***
					(0.052)	(0.052)	(0.049)	(0.048)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.241***	-0.250***	-0.242***	-0.202**	-0.202**	-0.187**
					(0.092)	(0.089)	(0.081)	(0.081)	(0.081)	(0.081)
Commute/10 (Winsorised)						-0.026***	-0.019***	-0.013***	-0.013***	-0.010**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.407***	-0.375***	-0.368***	-0.347***
							(0.026)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.657***	0.650***	0.554***
								(0.049)	(0.050)	(0.049)
Chronic illness = 1, Yes									-0.211***	-0.175***
									(0.048)	(0.049)
Tired job										0.139***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.046	0.065	0.080	0.082	0.084	0.085	0.129	0.145	0.146	0.153

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.6: Job Satisfaction and Work-Hour Mismatch (Top 1% Excluded): Baseline and Extended Specifications

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.020***	-0.020***	-0.023***	-0.023***	-0.023***	-0.022***	-0.021***	-0.014***	-0.014***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Under-employment	-0.042***	-0.037***	-0.036***	-0.035***	-0.035***	-0.033***	-0.025***	-0.026***	-0.026***	-0.029***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)
Age/10		-0.352***	-0.442***	-0.484***	-0.494***	-0.488***	-0.278***	-0.228***	-0.232***	-0.180**
		(0.077)	(0.081)	(0.083)	(0.083)	(0.086)	(0.084)	(0.083)	(0.083)	(0.082)
Age squared		0.049***	0.057***	0.060***	0.061***	0.060***	0.036***	0.029***	0.030***	0.023**
		(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Gender = 2, Female		-0.035	0.003	0.009	-0.010	-0.010	0.037	0.035	0.040	0.071**
		(0.028)	(0.026)	(0.026)	(0.026)	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.295***	0.224***	0.218***	0.211***	0.222***	0.135**	0.138**	0.136**	0.115**
		(0.062)	(0.062)	(0.061)	(0.059)	(0.061)	(0.054)	(0.053)	(0.053)	(0.053)
Education = 3, Tertiary		0.750***	0.372***	0.369***	0.343***	0.368***	0.163***	0.163***	0.158***	0.134**
		(0.072)	(0.069)	(0.067)	(0.063)	(0.066)	(0.055)	(0.052)	(0.053)	(0.051)
Household size		0.031**	0.027*	0.027*	0.026*	0.028*	0.039***	0.047***	0.046***	0.044***
		(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.014)	(0.013)	(0.013)	(0.014)
Urbanization = 2, Village/small town		-0.153***	-0.168***	-0.165***	-0.161***	-0.157***	-0.137***	-0.137***	-0.145***	-0.136***
		(0.047)	(0.044)	(0.044)	(0.043)	(0.041)	(0.045)	(0.044)	(0.046)	(0.046)
Urbanization = 3, Med./Large town		-0.126***	-0.148***	-0.142***	-0.141***	-0.145***	-0.113***	-0.102**	-0.110***	-0.101**
		(0.042)	(0.041)	(0.041)	(0.040)	(0.040)	(0.041)	(0.038)	(0.039)	(0.040)
Urbanization = 4, City or suburb		-0.252***	-0.289***	-0.287***	-0.279***	-0.253***	-0.224***	-0.218***	-0.226***	-0.215***
		(0.042)	(0.039)	(0.038)	(0.038)	(0.037)	(0.042)	(0.042)	(0.043)	(0.044)
Occupation = 1, Skill level < 3			-0.624***	-0.615***	-0.573***	-0.577***	-0.461***	-0.447***	-0.450***	-0.456***
			(0.058)	(0.058)	(0.055)	(0.053)	(0.052)	(0.050)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.285***	-0.283***	-0.255***	-0.245***	-0.198***	-0.209***	-0.207***	-0.218***
			(0.047)	(0.046)	(0.044)	(0.044)	(0.043)	(0.043)	(0.043)	(0.042)
Occupation = 3, Skill level = 3 & 4			0.240***	0.223***	0.281***	0.260***	0.169**	0.181***	0.182***	0.175***
			(0.068)	(0.067)	(0.072)	(0.072)	(0.065)	(0.066)	(0.066)	(0.065)
Contract = 1, Permanent				0.293***	0.295***	0.294***	0.220***	0.195***	0.193***	0.192***
				(0.068)	(0.068)	(0.069)	(0.062)	(0.062)	(0.061)	(0.059)
Contract = 3, No written				0.204*	0.247**	0.227*	0.176	0.151	0.148	0.149
				(0.115)	(0.116)	(0.123)	(0.117)	(0.119)	(0.119)	(0.113)
Contract = 4, Other/missing				0.384***	0.439***	0.412***	0.351***	0.346***	0.343***	0.331***
				(0.085)	(0.088)	(0.094)	(0.086)	(0.086)	(0.086)	(0.083)
Sector = 2, Private sector					-0.211***	-0.206***	-0.213***	-0.184***	-0.188***	-0.184***
					(0.052)	(0.051)	(0.048)	(0.047)	(0.048)	(0.046)
Sector = 3, Other/unknown					-0.282**	-0.286**	-0.270**	-0.241**	-0.241**	-0.227**
					(0.115)	(0.119)	(0.107)	(0.107)	(0.107)	(0.107)
Commute/10						-0.027***	-0.020***	-0.014***	-0.014***	-0.011**
						(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.406***	-0.373***	-0.366***	-0.344***
							(0.026)	(0.025)	(0.025)	(0.025)
Work-family balance = 2, Well								0.672***	0.666***	0.567***
								(0.050)	(0.050)	(0.050)
Chronic illness = 1, Yes									-0.203***	-0.165***
									(0.050)	(0.051)
Tired job										0.143***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,291	33,079	32,953	32,953	32,953	31,740	31,502	31,381	31,275	31,176
R-squared	0.042	0.060	0.076	0.078	0.080	0.081	0.125	0.142	0.143	0.151

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.7: Job Satisfaction and Work-Hour Mismatch (Categorical): Baseline and Extended Models

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.447***	-0.466***	-0.498***	-0.499***	-0.487***	-0.472***	-0.430***	-0.308***	-0.308***	-0.257***
	(0.046)	(0.045)	(0.043)	(0.042)	(0.040)	(0.041)	(0.039)	(0.039)	(0.040)	(0.039)
Under-employment	-0.639***	-0.589***	-0.579***	-0.563***	-0.563***	-0.526***	-0.390***	-0.379***	-0.372***	-0.387***
	(0.055)	(0.054)	(0.056)	(0.054)	(0.053)	(0.053)	(0.054)	(0.057)	(0.057)	(0.056)
Age/10		-0.328***	-0.416***	-0.463***	-0.472***	-0.465***	-0.266***	-0.222**	-0.226***	-0.178**
		(0.069)	(0.077)	(0.080)	(0.080)	(0.084)	(0.081)	(0.081)	(0.081)	(0.080)
Age squared		0.046***	0.053***	0.058***	0.058***	0.057***	0.034***	0.028***	0.030***	0.024**
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.034	0.003	0.007	-0.011	-0.012	0.036	0.031	0.037	0.065**
		(0.029)	(0.027)	(0.026)	(0.027)	(0.027)	(0.028)	(0.027)	(0.028)	(0.028)
Education = 2, Upper secondary or post-secondary		0.319***	0.251***	0.243***	0.237***	0.246***	0.156***	0.155***	0.153***	0.133**
		(0.063)	(0.064)	(0.062)	(0.061)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.797***	0.426***	0.421***	0.396***	0.415***	0.205***	0.197***	0.192***	0.167***
		(0.076)	(0.073)	(0.071)	(0.066)	(0.071)	(0.058)	(0.055)	(0.055)	(0.054)
Household size		0.035***	0.032***	0.032***	0.031***	0.033***	0.044***	0.052***	0.051***	0.049***
		(0.011)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.139***	-0.153***	-0.150***	-0.147***	-0.142***	-0.122***	-0.125***	-0.133***	-0.128***
		(0.046)	(0.044)	(0.044)	(0.043)	(0.042)	(0.044)	(0.043)	(0.045)	(0.045)
Urbanization = 3, A medium to large town		-0.111***	-0.132***	-0.127***	-0.126***	-0.127***	-0.096**	-0.090**	-0.098**	-0.094**
		(0.038)	(0.037)	(0.037)	(0.037)	(0.037)	(0.038)	(0.036)	(0.036)	(0.038)
Urbanization = 4, A city or city suburb		-0.214***	-0.248***	-0.246***	-0.240***	-0.213***	-0.188***	-0.187***	-0.195***	-0.187***
		(0.045)	(0.044)	(0.044)	(0.044)	(0.043)	(0.048)	(0.049)	(0.049)	(0.050)
Occupation = 1, Skill level < 3			-0.623***	-0.615***	-0.576***	-0.581***	-0.464***	-0.447***	-0.450***	-0.455***
			(0.058)	(0.057)	(0.055)	(0.054)	(0.052)	(0.050)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.276***	-0.277***	-0.251***	-0.242***	-0.193***	-0.204***	-0.202***	-0.214***
			(0.046)	(0.045)	(0.043)	(0.043)	(0.041)	(0.041)	(0.042)	(0.040)
Occupation = 3, Skill level = 3 & 4			0.209***	0.195***	0.249***	0.229***	0.138**	0.160**	0.160**	0.156**
			(0.064)	(0.064)	(0.067)	(0.068)	(0.061)	(0.063)	(0.063)	(0.062)
Contract type = 1, Permanent contract				0.298***	0.300***	0.294***	0.223***	0.197***	0.196***	0.195***
				(0.068)	(0.068)	(0.069)	(0.061)	(0.062)	(0.061)	(0.058)
Contract type = 3, No written contract				0.163	0.202*	0.174	0.138	0.118	0.117	0.118
				(0.103)	(0.103)	(0.107)	(0.102)	(0.104)	(0.105)	(0.101)
Contract type = 4, Other/missing				0.344***	0.393***	0.365***	0.308***	0.314***	0.312***	0.304***
				(0.083)	(0.085)	(0.091)	(0.082)	(0.083)	(0.083)	(0.080)
Sector = 2, Private sector					-0.197***	-0.195***	-0.203***	-0.178***	-0.182***	-0.180***
					(0.051)	(0.051)	(0.048)	(0.047)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.235**	-0.245***	-0.234***	-0.200**	-0.201**	-0.186**
					(0.090)	(0.088)	(0.081)	(0.080)	(0.080)	(0.080)
Commute/10						-0.025***	-0.018***	-0.012***	-0.012***	-0.009**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.407***	-0.375***	-0.368***	-0.347***
							(0.026)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.655***	0.648***	0.555***
								(0.049)	(0.049)	(0.049)
Chronic illness = 1, Yes									-0.211***	-0.176***
									(0.048)	(0.049)
Tired job										0.136***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.047	0.066	0.081	0.083	0.085	0.086	0.129	0.145	0.146	0.153

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.8: Job Satisfaction and Work-Hour Mismatch (Categorical ±4h): Baseline and Extended Specifications

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.420***	-0.438***	-0.472***	-0.474***	-0.462***	-0.449***	-0.413***	-0.288***	-0.288***	-0.238***
	(0.049)	(0.048)	(0.046)	(0.045)	(0.043)	(0.044)	(0.041)	(0.041)	(0.041)	(0.041)
Under-employment	-0.619***	-0.561***	-0.557***	-0.540***	-0.540***	-0.502***	-0.369***	-0.363***	-0.358***	-0.380***
	(0.056)	(0.055)	(0.058)	(0.056)	(0.056)	(0.054)	(0.055)	(0.059)	(0.058)	(0.057)
Age/10		-0.334***	-0.423***	-0.468***	-0.478***	-0.470***	-0.270***	-0.225**	-0.230***	-0.182**
		(0.069)	(0.077)	(0.079)	(0.079)	(0.084)	(0.080)	(0.080)	(0.080)	(0.079)
Age squared		0.047***	0.055***	0.059***	0.059***	0.058***	0.035***	0.029***	0.031***	0.024**
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.031	0.006	0.011	-0.006	-0.008	0.040	0.034	0.040	0.068**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.318***	0.250***	0.242***	0.236***	0.246***	0.155***	0.155***	0.152***	0.132**
		(0.063)	(0.064)	(0.062)	(0.061)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.793***	0.421***	0.416***	0.392***	0.411***	0.202***	0.194***	0.189***	0.163***
		(0.077)	(0.074)	(0.072)	(0.067)	(0.072)	(0.058)	(0.055)	(0.056)	(0.054)
Household size		0.035***	0.033***	0.032***	0.031***	0.033***	0.045***	0.053***	0.052***	0.050***
		(0.011)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, Village/small town		-0.144***	-0.158***	-0.155***	-0.152***	-0.147***	-0.128***	-0.131***	-0.137***	-0.131***
		(0.046)	(0.044)	(0.044)	(0.043)	(0.042)	(0.044)	(0.044)	(0.045)	(0.045)
Urbanization = 3, Med./Large town		-0.116***	-0.137***	-0.131***	-0.131***	-0.132***	-0.100***	-0.094**	-0.101***	-0.096***
		(0.038)	(0.037)	(0.037)	(0.037)	(0.037)	(0.038)	(0.036)	(0.036)	(0.037)
Urbanization = 4, City or suburb		-0.220***	-0.254***	-0.252***	-0.245***	-0.219***	-0.191***	-0.193***	-0.199***	-0.191***
		(0.046)	(0.045)	(0.045)	(0.045)	(0.044)	(0.049)	(0.050)	(0.050)	(0.051)
Occupation = 1, Skill level < 3			-0.625***	-0.617***	-0.578***	-0.583***	-0.464***	-0.448***	-0.451***	-0.457***
			(0.057)	(0.056)	(0.054)	(0.053)	(0.052)	(0.050)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.280***	-0.280***	-0.254***	-0.245***	-0.195***	-0.206***	-0.204***	-0.215***
			(0.046)	(0.045)	(0.043)	(0.043)	(0.041)	(0.041)	(0.042)	(0.040)
Occupation = 3, Skill level = 3 & 4			0.215***	0.200***	0.253***	0.234***	0.142**	0.162***	0.162***	0.158**
			(0.064)	(0.064)	(0.067)	(0.068)	(0.062)	(0.063)	(0.063)	(0.062)
Contract = 1, Permanent				0.298***	0.295***	0.291***	0.220***	0.195***	0.193***	0.193***
				(0.068)	(0.068)	(0.069)	(0.061)	(0.061)	(0.062)	(0.058)
Contract = 3, No written				0.207*	0.169	0.178	0.142	0.120	0.121	0.135
				(0.104)	(0.103)	(0.108)	(0.102)	(0.104)	(0.105)	(0.101)
Contract = 4, Other/missing				0.403***	0.356***	0.375***	0.317***	0.321***	0.318***	0.309***
				(0.085)	(0.083)	(0.092)	(0.082)	(0.083)	(0.083)	(0.080)
Sector = 2, Private sector					-0.194***	-0.192***	-0.201***	-0.176***	-0.180***	-0.179***
					(0.051)	(0.051)	(0.048)	(0.047)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.233**	-0.242***	-0.232***	-0.199**	-0.199**	-0.185**
					(0.093)	(0.091)	(0.084)	(0.083)	(0.082)	(0.082)
Commute/10 (Winsorised)						-0.025***	-0.018***	-0.012***	-0.012***	-0.009**
						(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Income sufficiency							-0.409***	-0.377***	-0.369***	-0.349***
							(0.026)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.656***	0.649***	0.556***
								(0.050)	(0.050)	(0.049)
Chronic illness = 1, Yes									-0.211***	-0.178***
									(0.048)	(0.049)
Tired job										0.137***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.045	0.065	0.080	0.082	0.084	0.085	0.129	0.144	0.145	0.153

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.9: Work-Hour Mismatch and Job Satisfaction (Welfare Regime Clustered SEs)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.747***	-1.750***	-1.926***	-1.950***	-1.920***	-1.948***	-1.805***	-1.211***	-1.210***	-1.009**
	(0.261)	(0.223)	(0.217)	(0.214)	(0.213)	(0.211)	(0.202)	(0.218)	(0.223)	(0.265)
Under-employment	-2.776***	-2.410**	-2.530**	-2.474**	-2.485**	-2.278**	-1.627*	-1.630*	-1.601*	-1.800*
	(0.559)	(0.534)	(0.617)	(0.631)	(0.613)	(0.642)	(0.705)	(0.730)	(0.737)	(0.722)
Age/10		-0.365***	-0.456***	-0.500***	-0.510***	-0.498***	-0.293***	-0.238***	-0.243***	-0.191**
		(0.043)	(0.052)	(0.049)	(0.049)	(0.059)	(0.040)	(0.050)	(0.047)	(0.046)
Age squared		0.051***	0.059***	0.063***	0.063***	0.062***	0.038***	0.031**	0.032***	0.026**
		(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)	(0.007)	(0.006)
Gender = 2, Female		-0.042	-0.004	0.002	-0.017	-0.019	0.030	0.026	0.033	0.062*
		(0.021)	(0.018)	(0.016)	(0.014)	(0.014)	(0.029)	(0.031)	(0.029)	(0.026)
Education = 2, Upper secondary or post-secondary		0.305**	0.233**	0.226**	0.220**	0.230**	0.140	0.144*	0.142*	0.122
		(0.073)	(0.081)	(0.080)	(0.078)	(0.079)	(0.075)	(0.067)	(0.066)	(0.069)
Education = 3, Tertiary		0.773***	0.397**	0.393**	0.367**	0.388**	0.178**	0.177**	0.172**	0.148*
		(0.136)	(0.094)	(0.090)	(0.081)	(0.088)	(0.064)	(0.055)	(0.055)	(0.056)
Household size		0.036**	0.033*	0.033*	0.032*	0.034*	0.045***	0.053***	0.052***	0.050***
		(0.013)	(0.013)	(0.012)	(0.013)	(0.014)	(0.009)	(0.009)	(0.009)	(0.008)
Urbanization = 2, A village/small town		-0.151*	-0.167**	-0.163**	-0.160**	-0.153**	-0.132*	-0.132*	-0.140*	-0.134*
		(0.058)	(0.050)	(0.050)	(0.049)	(0.044)	(0.050)	(0.050)	(0.053)	(0.050)
Urbanization = 3, A medium to large town		-0.129*	-0.152**	-0.145**	-0.144**	-0.144**	-0.111**	-0.100**	-0.108**	-0.101**
		(0.049)	(0.041)	(0.040)	(0.038)	(0.031)	(0.025)	(0.024)	(0.025)	(0.028)
Urbanization = 4, A city or city suburb		-0.237**	-0.273***	-0.269***	-0.262***	-0.232***	-0.204**	-0.198**	-0.206**	-0.197**
		(0.059)	(0.051)	(0.049)	(0.049)	(0.043)	(0.051)	(0.057)	(0.059)	(0.053)
Occupation = 1, Skill level < 3			-0.620**	-0.610**	-0.568**	-0.573***	-0.454**	-0.442**	-0.445**	-0.452**
			(0.140)	(0.139)	(0.130)	(0.124)	(0.116)	(0.108)	(0.107)	(0.106)
Occupation = 2, Skill level = 3			-0.279**	-0.278**	-0.250**	-0.241**	-0.191**	-0.203**	-0.201**	-0.213**
			(0.062)	(0.064)	(0.056)	(0.054)	(0.055)	(0.058)	(0.059)	(0.058)
Occupation = 3, Skill level = 3 & 4			0.241**	0.223**	0.282**	0.260**	0.163*	0.178*	0.178*	0.175*
			(0.073)	(0.069)	(0.079)	(0.081)	(0.064)	(0.065)	(0.067)	(0.066)
Contract type = 1, Permanent contract				0.301**	0.305***	0.298***	0.223**	0.200**	0.198**	0.200**
				(0.066)	(0.064)	(0.063)	(0.051)	(0.051)	(0.050)	(0.046)
Contract type = 3, No written contract				0.188**	0.230**	0.200**	0.160**	0.135**	0.133**	0.133**
				(0.055)	(0.058)	(0.061)	(0.038)	(0.037)	(0.036)	(0.033)
Contract type = 4, Other/missing				0.385***	0.437***	0.406***	0.344***	0.340**	0.338***	0.328***
				(0.055)	(0.055)	(0.065)	(0.073)	(0.076)	(0.072)	(0.065)
Sector = 2, Private sector					-0.213**	-0.211**	-0.218**	-0.188**	-0.192**	-0.188**
					(0.060)	(0.058)	(0.063)	(0.060)	(0.059)	(0.053)
Sector = 3, Other/unknown					-0.238	-0.247*	-0.239*	-0.201*	-0.201	-0.183
					(0.117)	(0.107)	(0.095)	(0.090)	(0.099)	(0.098)
Commute/10 (Winsorised (0.01))						-0.026***	-0.019***	-0.013**	-0.013**	-0.010**
						(0.003)	(0.004)	(0.004)	(0.003)	(0.003)
Income sufficiency							-0.411***	-0.379***	-0.372***	-0.351***
							(0.056)	(0.053)	(0.054)	(0.053)
Work-family balance = 2, Well								0.663***	0.657***	0.558***
								(0.073)	(0.071)	(0.070)
Chronic illness = 1, Yes									-0.213***	-0.177**
									(0.040)	(0.042)
Tired job										0.139***
										(0.023)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.042	0.061	0.076	0.079	0.081	0.082	0.127	0.143	0.144	0.152

Standard errors are clustered at welfare states level in parentheses (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.10: Two-Stage Residual Inclusion Results

	Chronic illness	Job satisfaction	Chronic illness	Job satisfaction	Chronic illness	Job satisfaction
Instrument (distance to doctor's office)						
Difficulty: Very difficult (1)	0.317***		0.312***		0.176***	
	(0.061)		(0.063)		(0.066)	
Difficulty: A little difficult (2)	0.144***		0.147***		0.0847***	
	(0.029)		(0.030)		(0.033)	
Chronic illness (=1 Yes)		-2.935***		-1.509***		0.128
		(0.723)		(0.545)		(0.553)
2SRI probit generalized residual		1.450***		0.638**		-0.176
		(0.389)		(0.294)		(0.304)
Over-employment					0.036	-1.053***
					(0.142)	(0.188)
Under-employment					0.700***	-1.871***
					(0.270)	(0.502)
Age/10			0.110**	-0.339***	0.011	-0.134*
			(0.054)	(0.060)	(0.058)	(0.075)
Age squared			0.012*	0.056***	0.024***	0.016
			(0.006)	(0.008)	(0.007)	(0.009)
Gender = 2, Female			0.129***	0.013	0.084***	0.053*
			(0.021)	(0.038)	(0.019)	(0.030)
Education = 2, Upper secondary			-0.055	0.273***	-0.016	0.0997*
			(0.039)	(0.067)	(0.035)	(0.054)
Education = 3, Tertiary			-0.079**	0.730***	-0.008	0.122**
			(0.040)	(0.078)	(0.043)	(0.056)
Urbanization = 2, A village/small town			-0.069*	-0.166***	-0.081**	-0.113**
			(0.038)	(0.057)	(0.037)	(0.052)
Urbanization = 3, A medium to large town			-0.048	-0.150***	-0.071*	-0.091**
			(0.038)	(0.049)	(0.039)	(0.044)
Urbanization = 4, A city or city suburb			-0.044	-0.261***	-0.070*	-0.185***
			(0.039)	(0.056)	(0.038)	(0.056)
Occupation = 1, Skill level < 3					-0.027	-0.446***
					(0.034)	(0.050)
Occupation = 2, Skill level = 3					0.020	-0.223***
					(0.046)	(0.042)
Occupation = 3, Skill level = 3 & 4					-0.006	0.192***
					(0.051)	(0.062)
Contract type = 2, Fixed-term					0.0826**	-0.198***
					(0.034)	(0.057)
Contract type = 3, No written contract					0.081	-0.045
					(0.075)	(0.089)
Contract type = 4, Other/missing					0.0152	0.142**
					(0.054)	(0.069)
Sector = 2, Private sector					-0.109***	-0.180***
					(0.026)	(0.055)
Sector = 3, Other/unknown					-0.167***	-0.163*
					(0.057)	(0.086)
Commute/10 (Winsorised (0.01))					0.006**	-0.011**
					(0.003)	(0.004)
Income sufficiency					0.109***	-0.356***
					(0.010)	(0.027)
Work-family balance = 2, Well					-0.044	0.572***
					(0.032)	(0.053)
Tired job					-0.0914***	0.143***
					(0.012)	(0.019)
Wave	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓
Observations	32,337	32,337	32,137	32,137	30,425	30,425
R-squared		0.039		0.056		0.151

Table B.11: Job Satisfaction and Work-Hour Mismatch: Baseline and Extended Specifications (Commute Winsorized at the 95th Percentile)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.747***	-1.750***	-1.926***	-1.950***	-1.920***	-1.952***	-1.808***	-1.213***	-1.212***	-1.011***
	(0.199)	(0.175)	(0.169)	(0.168)	(0.164)	(0.164)	(0.167)	(0.172)	(0.175)	(0.191)
Under-employment	-2.776***	-2.410***	-2.530***	-2.474***	-2.485***	-2.284***	-1.632***	-1.635***	-1.606***	-1.804***
	(0.629)	(0.620)	(0.542)	(0.515)	(0.516)	(0.516)	(0.410)	(0.451)	(0.445)	(0.469)
Age/10		-0.365***	-0.456***	-0.500***	-0.510***	-0.498***	-0.293***	-0.238***	-0.243***	-0.190**
		(0.068)	(0.077)	(0.079)	(0.080)	(0.083)	(0.080)	(0.080)	(0.080)	(0.079)
Age squared		0.051***	0.059***	0.063***	0.063***	0.062***	0.038***	0.031***	0.032***	0.025***
		(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Gender = 2, Female		-0.042	-0.004	0.002	-0.017	-0.019	0.030	0.026	0.032	0.062**
		(0.028)	(0.027)	(0.026)	(0.026)	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Education = 2, Upper secondary		0.305***	0.233***	0.226***	0.220***	0.231***	0.141**	0.145**	0.142**	0.123**
		(0.064)	(0.064)	(0.062)	(0.061)	(0.063)	(0.055)	(0.054)	(0.054)	(0.054)
Education = 3, Tertiary		0.773***	0.397***	0.393***	0.367***	0.389***	0.179***	0.179***	0.174***	0.150***
		(0.077)	(0.073)	(0.071)	(0.067)	(0.070)	(0.057)	(0.054)	(0.054)	(0.053)
Household size		0.036***	0.033***	0.033***	0.032***	0.034***	0.045***	0.054***	0.053***	0.051***
		(0.011)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.151***	-0.167***	-0.163***	-0.160***	-0.154***	-0.132***	-0.132***	-0.140***	-0.134***
		(0.047)	(0.044)	(0.044)	(0.044)	(0.042)	(0.045)	(0.044)	(0.046)	(0.045)
Urbanization = 3, A medium to large town		-0.129***	-0.152***	-0.145***	-0.144***	-0.145***	-0.112***	-0.101**	-0.109***	-0.102**
		(0.039)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.037)	(0.037)	(0.038)
Urbanization = 4, A city or city suburb		-0.237***	-0.273***	-0.269***	-0.262***	-0.229***	-0.202***	-0.196***	-0.205***	-0.195***
		(0.046)	(0.045)	(0.045)	(0.046)	(0.045)	(0.049)	(0.050)	(0.050)	(0.051)
Occupation = 1, Skill level < 3			-0.620***	-0.610***	-0.568***	-0.574***	-0.455***	-0.443***	-0.446***	-0.453***
			(0.057)	(0.057)	(0.055)	(0.054)	(0.052)	(0.049)	(0.050)	(0.049)
Occupation = 2, Skill level = 3			-0.279***	-0.278***	-0.250***	-0.240***	-0.190***	-0.202***	-0.201***	-0.212***
			(0.047)	(0.046)	(0.043)	(0.044)	(0.042)	(0.041)	(0.042)	(0.040)
Occupation = 3, Skill level = 3 & 4			0.241***	0.223***	0.282***	0.259***	0.162**	0.177***	0.177***	0.174***
			(0.063)	(0.063)	(0.067)	(0.068)	(0.061)	(0.062)	(0.062)	(0.060)
Contract type = 1, Permanent contract				0.301***	0.305***	0.298***	0.222***	0.200***	0.198***	0.200***
				(0.069)	(0.069)	(0.070)	(0.062)	(0.062)	(0.062)	(0.059)
Contract type = 3, No written contract				0.188*	0.230**	0.199*	0.159	0.134	0.132	0.132
				(0.105)	(0.105)	(0.110)	(0.103)	(0.106)	(0.107)	(0.102)
Contract type = 4, Other/missing				0.385***	0.437***	0.404***	0.342***	0.339***	0.336***	0.326***
				(0.085)	(0.088)	(0.094)	(0.084)	(0.085)	(0.085)	(0.083)
Sector = 2, Private sector					-0.213***	-0.210***	-0.217***	-0.187***	-0.191***	-0.188***
					(0.052)	(0.052)	(0.049)	(0.048)	(0.049)	(0.047)
Sector = 3, Other/unknown					-0.238**	-0.247***	-0.238***	-0.200**	-0.201**	-0.183**
					(0.091)	(0.088)	(0.081)	(0.081)	(0.081)	(0.080)
Commute/10 (Winsorised (0.05))						-0.031***	-0.023***	-0.017***	-0.017***	-0.013***
						(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Making ends meet							-0.411***	-0.379***	-0.371***	-0.351***
							(0.027)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.663***	0.656***	0.558***
								(0.050)	(0.050)	(0.050)
Chronic illness = 1, Yes									-0.213***	-0.177***
									(0.049)	(0.050)
Tired job										0.139***
										(0.013)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,669	33,534	33,534	33,534	32,265	32,025	31,896	31,787	31,686
R-squared	0.042	0.061	0.076	0.079	0.081	0.082	0.127	0.143	0.144	0.152

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.12: Job Satisfaction and Work-Hour Mismatch: Results for Women

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.915***	-1.934***	-2.077***	-2.081***	-2.051***	-2.081***	-1.848***	-1.080***	-1.078***	-0.836***
	(0.226)	(0.212)	(0.209)	(0.213)	(0.212)	(0.218)	(0.202)	(0.183)	(0.183)	(0.195)
Under-employment	-3.899***	-3.511***	-3.484***	-3.374***	-3.409***	-3.421***	-2.547***	-2.768***	-2.757***	-3.027***
	(0.490)	(0.474)	(0.502)	(0.508)	(0.502)	(0.488)	(0.542)	(0.537)	(0.548)	(0.524)
Age/10		-0.355***	-0.453***	-0.499***	-0.509***	-0.502***	-0.328***	-0.304***	-0.294***	-0.261**
		(0.107)	(0.104)	(0.108)	(0.108)	(0.110)	(0.108)	(0.109)	(0.107)	(0.104)
Age squared		0.054***	0.063***	0.068***	0.067***	0.065***	0.045***	0.041***	0.041***	0.036***
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Education = 2, Upper secondary		0.285***	0.210***	0.199***	0.193***	0.201***	0.128**	0.138**	0.138**	0.128**
		(0.071)	(0.070)	(0.066)	(0.065)	(0.064)	(0.060)	(0.059)	(0.059)	(0.058)
Education = 3, Tertiary		0.790***	0.396***	0.386***	0.355***	0.377***	0.187**	0.199**	0.192**	0.178**
		(0.103)	(0.093)	(0.087)	(0.085)	(0.087)	(0.079)	(0.077)	(0.076)	(0.075)
Household size		0.040**	0.036**	0.036**	0.033*	0.034*	0.038**	0.051***	0.050***	0.049***
		(0.016)	(0.016)	(0.016)	(0.016)	(0.017)	(0.016)	(0.016)	(0.015)	(0.015)
Urbanization = 2, A village/small town		-0.221***	-0.227***	-0.228***	-0.222***	-0.212***	-0.196***	-0.199***	-0.210***	-0.205***
		(0.049)	(0.046)	(0.045)	(0.046)	(0.043)	(0.051)	(0.049)	(0.050)	(0.052)
Urbanization = 3, A medium to large town		-0.239***	-0.250***	-0.245***	-0.242***	-0.226***	-0.201***	-0.194***	-0.209***	-0.203***
		(0.061)	(0.062)	(0.062)	(0.062)	(0.061)	(0.065)	(0.062)	(0.060)	(0.064)
Urbanization = 4, A city or city suburb		-0.324***	-0.343***	-0.342***	-0.330***	-0.287***	-0.271***	-0.274***	-0.285***	-0.271***
		(0.052)	(0.051)	(0.050)	(0.050)	(0.050)	(0.058)	(0.056)	(0.055)	(0.060)
Occupation = 1, Skill level < 3			-0.660***	-0.652***	-0.587***	-0.589***	-0.493***	-0.488***	-0.491***	-0.496***
			(0.078)	(0.077)	(0.073)	(0.072)	(0.071)	(0.066)	(0.067)	(0.067)
Occupation = 2, Skill level = 3			-0.270***	-0.273***	-0.240***	-0.220***	-0.189***	-0.209***	-0.203***	-0.214***
			(0.071)	(0.071)	(0.066)	(0.067)	(0.060)	(0.054)	(0.056)	(0.057)
Occupation = 3, Skill level = 3 & 4			0.087	0.067	0.151	0.146	0.046	0.062	0.063	0.070
			(0.106)	(0.107)	(0.108)	(0.113)	(0.113)	(0.111)	(0.112)	(0.110)
Contract type = 1, Permanent contract				0.304***	0.310***	0.303***	0.244***	0.213***	0.216***	0.221***
				(0.074)	(0.074)	(0.075)	(0.069)	(0.068)	(0.068)	(0.066)
Contract type = 3, No written contract				0.095	0.145	0.083	0.073	0.037	0.033	0.026
				(0.099)	(0.096)	(0.101)	(0.100)	(0.103)	(0.106)	(0.103)
Contract type = 4, Other/missing				0.330***	0.390***	0.353***	0.330***	0.294***	0.297***	0.295***
				(0.104)	(0.107)	(0.109)	(0.098)	(0.099)	(0.099)	(0.097)
Sector = 2, Private sector					-0.250***	-0.244***	-0.263***	-0.216***	-0.220***	-0.223***
					(0.059)	(0.058)	(0.053)	(0.052)	(0.053)	(0.052)
Sector = 3, Other/unknown					-0.102	-0.106	-0.091	-0.068	-0.055	-0.047
					(0.140)	(0.146)	(0.139)	(0.146)	(0.145)	(0.152)
Commute/10 (Winsorised (0.01))						-0.037***	-0.030***	-0.024***	-0.024***	-0.020***
						(0.008)	(0.008)	(0.007)	(0.007)	(0.006)
Income sufficiency							-0.381***	-0.337***	-0.330***	-0.307***
							(0.032)	(0.031)	(0.030)	(0.030)
Work-family balance = 2, Well								0.820***	0.816***	0.712***
								(0.068)	(0.068)	(0.071)
Chronic illness = 1, Yes									-0.180***	-0.127**
									(0.062)	(0.062)
Tired job										0.149***
										(0.015)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	17,406	17,305	17,237	17,237	17,237	16,673	16,563	16,508	16,455	16,410
R-squared	0.039	0.060	0.075	0.077	0.080	0.083	0.121	0.145	0.146	0.154

For women, both mismatch categories are consistently associated with lower job satisfaction across all specifications. Over-employment is negative throughout, and its magnitude declines notably once income sufficiency and work-family balance are included, which suggests that part of the over-employment penalty may be related to financial strain and work-life compatibility. Under-employment is larger in magnitude in the baseline specification and remains sizeable after controls are added. Its coefficient attenuates when income sufficiency enters the model but becomes more negative again once work-family balance is included, which is consistent with the under-employment gap being less closely tied to work-family balance than the over-employment gap.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.13: Job Satisfaction and Work-Hour Mismatch: Results for Men

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.632***	-1.616***	-1.817***	-1.867***	-1.839***	-1.853***	-1.774***	-1.298***	-1.296***	-1.113***
	(0.242)	(0.229)	(0.222)	(0.216)	(0.211)	(0.210)	(0.217)	(0.225)	(0.227)	(0.241)
Under-employment	-1.740*	-1.390	-1.643*	-1.622*	-1.582*	-1.135	-0.715	-0.583	-0.539	-0.678
	(0.974)	(0.986)	(0.858)	(0.835)	(0.854)	(0.917)	(0.746)	(0.785)	(0.776)	(0.820)
Age/10		-0.369***	-0.461***	-0.502***	-0.509***	-0.492***	-0.261**	-0.196	-0.213	-0.144
		(0.104)	(0.112)	(0.117)	(0.118)	(0.128)	(0.128)	(0.129)	(0.128)	(0.127)
Age squared		0.048***	0.057***	0.060***	0.060***	0.059***	0.032**	0.024	0.027*	0.018
		(0.012)	(0.013)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Education = 2, Upper secondary		0.315***	0.250***	0.245***	0.238***	0.251***	0.149**	0.151**	0.148**	0.122*
		(0.076)	(0.077)	(0.076)	(0.074)	(0.080)	(0.072)	(0.069)	(0.070)	(0.070)
Education = 3, Tertiary		0.754***	0.409***	0.411***	0.387***	0.409***	0.186**	0.180**	0.178**	0.146*
		(0.076)	(0.089)	(0.090)	(0.082)	(0.091)	(0.079)	(0.078)	(0.079)	(0.078)
Household size		0.037**	0.033*	0.033*	0.033**	0.035*	0.052***	0.057***	0.057***	0.055***
		(0.017)	(0.016)	(0.016)	(0.016)	(0.018)	(0.017)	(0.017)	(0.017)	(0.016)
Urbanization = 2, A village/small town		-0.107	-0.129*	-0.121*	-0.122*	-0.117*	-0.093	-0.090	-0.098	-0.091
		(0.070)	(0.068)	(0.069)	(0.068)	(0.068)	(0.066)	(0.067)	(0.068)	(0.068)
Urbanization = 3, A medium to large town		-0.053	-0.083	-0.073	-0.077	-0.087	-0.049	-0.035	-0.038	-0.031
		(0.058)	(0.056)	(0.055)	(0.055)	(0.054)	(0.050)	(0.052)	(0.052)	(0.053)
Urbanization = 4, A city or city suburb		-0.183**	-0.230***	-0.223**	-0.223**	-0.200**	-0.162**	-0.150*	-0.157*	-0.150*
		(0.082)	(0.082)	(0.082)	(0.082)	(0.077)	(0.079)	(0.082)	(0.082)	(0.083)
Occupation = 1, Skill level < 3			-0.554***	-0.541***	-0.519***	-0.528***	-0.381***	-0.364***	-0.367***	-0.375***
			(0.069)	(0.070)	(0.071)	(0.072)	(0.066)	(0.065)	(0.065)	(0.061)
Occupation = 2, Skill level = 3			-0.250***	-0.242***	-0.225***	-0.226***	-0.153**	-0.160**	-0.161**	-0.173**
			(0.073)	(0.072)	(0.073)	(0.074)	(0.068)	(0.069)	(0.069)	(0.065)
Occupation = 3, Skill level = 3 & 4			0.342***	0.325***	0.361***	0.326***	0.240***	0.255***	0.253***	0.247***
			(0.085)	(0.084)	(0.089)	(0.091)	(0.087)	(0.087)	(0.086)	(0.084)
Contract type = 1, Permanent contract				0.297***	0.296***	0.290***	0.196**	0.180*	0.172*	0.169*
				(0.089)	(0.090)	(0.095)	(0.089)	(0.091)	(0.091)	(0.089)
Contract type = 3, No written contract				0.242	0.276*	0.273*	0.206	0.189	0.186	0.190
				(0.143)	(0.145)	(0.151)	(0.140)	(0.144)	(0.145)	(0.139)
Contract type = 4, Other/missing				0.426***	0.474***	0.449***	0.351***	0.366***	0.356***	0.339***
				(0.097)	(0.099)	(0.108)	(0.103)	(0.105)	(0.104)	(0.102)
Sector = 2, Private sector					-0.174***	-0.175***	-0.167***	-0.148**	-0.150**	-0.138**
					(0.054)	(0.055)	(0.057)	(0.056)	(0.057)	(0.056)
Sector = 3, Other/unknown					-0.357***	-0.377***	-0.365***	-0.322***	-0.334***	-0.305***
					(0.114)	(0.121)	(0.104)	(0.098)	(0.099)	(0.097)
Commute/10 (Winsorised (0.01))						-0.018**	-0.011	-0.005	-0.005	-0.002
						(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.436***	-0.410***	-0.403***	-0.383***
							(0.027)	(0.027)	(0.028)	(0.028)
Work-family balance = 2, Well								0.551***	0.541***	0.444***
								(0.049)	(0.050)	(0.047)
Chronic illness = 1, Yes									-0.253***	-0.231***
									(0.064)	(0.066)
Tired job										0.135***
										(0.018)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	16,477	16,364	16,297	16,297	16,297	15,592	15,462	15,388	15,332	15,276
R-squared	0.050	0.067	0.083	0.085	0.087	0.087	0.138	0.149	0.150	0.158

For men, over-employment is also consistently and statistically significantly associated with lower job satisfaction in every specification, including the fully controlled model. By contrast, the under-employment coefficient is smaller and less precisely estimated, and it is not consistently statistically significant once additional controls are included. Overall, the gender-stratified results suggest that over-employment is consistently associated with lower job satisfaction for both men and women, while the under-employment association is stronger and more robust among women. For men, the weaker under-employment results may reflect differences in the characteristics and circumstances of men who become under-employed, and the smaller or more heterogeneous under-employed male group may also make the estimates less precise.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.14: Job Satisfaction and Work-Hour Mismatch: Lower Secondary or Below

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-2.170***	-2.210***	-2.427***	-2.433***	-2.415***	-2.399***	-2.176***	-1.553***	-1.573***	-1.465***
	(0.374)	(0.367)	(0.377)	(0.380)	(0.378)	(0.406)	(0.435)	(0.437)	(0.436)	(0.447)
Under-employment	-0.625	-0.694	-1.110	-1.063	-1.060	-0.745	-0.205	-0.152	-0.144	-0.288
	(1.451)	(1.394)	(1.247)	(1.189)	(1.190)	(1.312)	(1.015)	(1.132)	(1.138)	(1.205)
Age/10		-0.296	-0.361	-0.409*	-0.413*	-0.414*	-0.153	-0.090	-0.090	-0.090
		(0.191)	(0.219)	(0.219)	(0.221)	(0.212)	(0.202)	(0.206)	(0.209)	(0.210)
Age squared		0.041*	0.048*	0.052**	0.052*	0.052**	0.019	0.011	0.012	0.011
		(0.021)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.026)
Gender = 2, Female		-0.036	0.005	0.013	0.005	-0.000	0.034	0.017	0.025	0.039
		(0.063)	(0.063)	(0.060)	(0.059)	(0.063)	(0.073)	(0.070)	(0.071)	(0.071)
Household size		0.033	0.029	0.029	0.029	0.022	0.027	0.041	0.038	0.037
		(0.027)	(0.028)	(0.029)	(0.029)	(0.032)	(0.029)	(0.026)	(0.026)	(0.026)
Urbanization = 2, A village/small town		-0.098	-0.102	-0.107	-0.105	-0.098	-0.009	-0.006	-0.020	-0.019
		(0.116)	(0.116)	(0.117)	(0.117)	(0.117)	(0.125)	(0.115)	(0.111)	(0.116)
Urbanization = 3, A medium to large town		-0.162	-0.159	-0.150	-0.147	-0.147	-0.022	-0.006	-0.020	-0.014
		(0.099)	(0.101)	(0.101)	(0.102)	(0.097)	(0.108)	(0.103)	(0.100)	(0.106)
Urbanization = 4, A city or city suburb		-0.230	-0.253	-0.248	-0.244	-0.220	-0.100	-0.066	-0.086	-0.083
		(0.172)	(0.167)	(0.169)	(0.171)	(0.176)	(0.183)	(0.185)	(0.181)	(0.186)
Occupation = 1, Skill level < 3			-0.629***	-0.599**	-0.585**	-0.615**	-0.489**	-0.502**	-0.549***	-0.542***
			(0.223)	(0.218)	(0.218)	(0.250)	(0.205)	(0.212)	(0.165)	(0.165)
Occupation = 2, Skill level = 3			-0.361*	-0.341	-0.340	-0.382	-0.365*	-0.410**	-0.444**	-0.440**
			(0.212)	(0.204)	(0.203)	(0.232)	(0.191)	(0.190)	(0.166)	(0.173)
Occupation = 3, Skill level = 3 & 4			0.166	0.151	0.179	0.204	-0.050	-0.060	-0.111	-0.100
			(0.406)	(0.399)	(0.402)	(0.414)	(0.366)	(0.386)	(0.364)	(0.369)
Contract type = 1, Permanent contract				0.329**	0.332**	0.298*	0.192	0.193	0.196	0.206
				(0.148)	(0.150)	(0.159)	(0.133)	(0.137)	(0.136)	(0.137)
Contract type = 3, No written contract				0.024	0.045	-0.072	-0.162	-0.177	-0.170	-0.160
				(0.205)	(0.204)	(0.211)	(0.182)	(0.186)	(0.192)	(0.186)
Contract type = 4, Other/missing				0.425**	0.448***	0.383**	0.253	0.288*	0.294*	0.308*
				(0.163)	(0.159)	(0.170)	(0.152)	(0.155)	(0.156)	(0.154)
Sector = 2, Private sector					-0.131	-0.147	-0.147	-0.117	-0.125	-0.115
					(0.109)	(0.113)	(0.105)	(0.104)	(0.109)	(0.102)
Sector = 3, Other/unknown					-0.152	-0.170	-0.185	-0.124	-0.122	-0.093
					(0.194)	(0.198)	(0.178)	(0.182)	(0.178)	(0.184)
Commute/10 (Winsorised (0.01))						-0.035***	-0.022**	-0.019*	-0.018*	-0.015
						(0.011)	(0.010)	(0.010)	(0.009)	(0.009)
Income sufficiency							-0.501***	-0.469***	-0.457***	-0.440***
							(0.052)	(0.054)	(0.052)	(0.053)
Work-family balance = 2, Well								0.685***	0.672***	0.587***
								(0.093)	(0.093)	(0.099)
Chronic illness = 1, Yes									-0.259**	-0.221*
									(0.123)	(0.125)
Tired job										0.113***
										(0.019)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,756	5,749	5,714	5,714	5,714	5,480	5,448	5,429	5,411	5,394
R-squared	0.063	0.066	0.073	0.076	0.077	0.082	0.140	0.156	0.158	0.163

Over-employment is statistically significant and negatively associated with job satisfaction across all specifications, and the magnitude is largest in this group. One possible interpretation is that workers with higher education may be more likely to receive compensating benefits (for example, higher pay or better job conditions) that can partially offset longer than preferred hours. The relatively strong association of income sufficiency with job satisfaction among the lowest educated is consistent with financial constraints playing a larger role in this group. Notably, the over-employment coefficient remains negative and statistically significant even after adding the full set of controls, suggesting that the association is not readily explained by the observed covariates. Under-employment, however, is not statistically significant for this group. A plausible reason is limited precision: even though the baseline sample includes 5,756 observations and 929 under-employed respondents, the rich set of controls plus country and year-fixed effects may inflate standard errors and make the under-employment estimate less precise.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.15: Job Satisfaction and Work-Hour Mismatch: Upper Secondary or Post-Secondary

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.904***	-1.916***	-2.044***	-2.038***	-2.000***	-2.028***	-1.835***	-1.214***	-1.211***	-0.932***
	(0.177)	(0.173)	(0.180)	(0.179)	(0.176)	(0.157)	(0.139)	(0.155)	(0.158)	(0.159)
Under-employment	-3.277***	-3.263***	-3.383***	-3.296***	-3.291***	-2.861***	-1.937**	-1.995**	-1.960**	-2.252***
	(0.662)	(0.638)	(0.717)	(0.730)	(0.724)	(0.711)	(0.795)	(0.817)	(0.813)	(0.785)
Age/10		-0.390***	-0.462***	-0.514***	-0.523***	-0.490***	-0.294**	-0.236*	-0.238*	-0.170
		(0.110)	(0.122)	(0.123)	(0.122)	(0.122)	(0.116)	(0.117)	(0.118)	(0.119)
Age squared		0.052***	0.058***	0.063***	0.063***	0.060***	0.037***	0.029**	0.030**	0.021
		(0.013)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.013)	(0.014)	(0.014)
Gender = 2, Female		-0.066	-0.021	-0.017	-0.034	-0.035	0.020	0.014	0.019	0.052
		(0.043)	(0.041)	(0.040)	(0.041)	(0.042)	(0.041)	(0.041)	(0.041)	(0.042)
Household size		0.043***	0.046***	0.046***	0.045***	0.051***	0.063***	0.068***	0.069***	0.067***
		(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)	(0.013)	(0.012)	(0.013)
Urbanization = 2, A village/small town		-0.228***	-0.234***	-0.229***	-0.222***	-0.198***	-0.197***	-0.200***	-0.205***	-0.194**
		(0.072)	(0.072)	(0.072)	(0.071)	(0.071)	(0.071)	(0.070)	(0.071)	(0.073)
Urbanization = 3, A medium to large town		-0.202***	-0.215***	-0.209***	-0.205***	-0.198***	-0.179**	-0.166**	-0.174**	-0.159**
		(0.067)	(0.067)	(0.066)	(0.066)	(0.069)	(0.067)	(0.069)	(0.068)	(0.070)
Urbanization = 4, A city or city suburb		-0.237***	-0.250***	-0.247***	-0.240***	-0.188***	-0.177**	-0.173**	-0.179**	-0.160**
		(0.067)	(0.067)	(0.068)	(0.068)	(0.067)	(0.067)	(0.070)	(0.070)	(0.072)
Occupation = 1, Skill level < 3			-0.558***	-0.549***	-0.498***	-0.495***	-0.352***	-0.340***	-0.350***	-0.359***
			(0.115)	(0.112)	(0.106)	(0.106)	(0.103)	(0.100)	(0.100)	(0.096)
Occupation = 2, Skill level = 3			-0.156	-0.156	-0.122	-0.089	-0.018	-0.028	-0.035	-0.056
			(0.104)	(0.102)	(0.097)	(0.100)	(0.101)	(0.100)	(0.099)	(0.095)
Occupation = 3, Skill level = 3 & 4			0.318**	0.306**	0.374***	0.353***	0.297**	0.318**	0.311**	0.313**
			(0.125)	(0.130)	(0.125)	(0.125)	(0.121)	(0.121)	(0.120)	(0.116)
Contract type = 1, Permanent contract				0.324***	0.318***	0.323***	0.248***	0.210***	0.210***	0.207***
				(0.080)	(0.078)	(0.078)	(0.072)	(0.072)	(0.071)	(0.069)
Contract type = 3, No written contract				0.199*	0.238**	0.235*	0.208	0.177	0.174	0.178
				(0.114)	(0.116)	(0.124)	(0.125)	(0.127)	(0.125)	(0.119)
Contract type = 4, Other/missing				0.341***	0.391***	0.379***	0.314***	0.301***	0.298***	0.286**
				(0.108)	(0.110)	(0.116)	(0.108)	(0.107)	(0.106)	(0.107)
Sector = 2, Private sector					-0.239***	-0.240***	-0.239***	-0.201***	-0.202***	-0.190***
					(0.052)	(0.051)	(0.048)	(0.047)	(0.048)	(0.046)
Sector = 3, Other/unknown					-0.411***	-0.448***	-0.440***	-0.385***	-0.386***	-0.368**
					(0.134)	(0.137)	(0.139)	(0.137)	(0.138)	(0.135)
Commute/10 (Winsorised (0.01))						-0.033***	-0.025***	-0.016**	-0.016**	-0.013*
						(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.432***	-0.394***	-0.389***	-0.364***
							(0.030)	(0.030)	(0.030)	(0.030)
Work-family balance = 2, Well								0.705***	0.701***	0.584***
								(0.062)	(0.061)	(0.060)
Chronic illness = 1, Yes									-0.129*	-0.082
									(0.067)	(0.068)
Tired job										0.170***
										(0.019)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	16,118	16,102	16,037	16,037	16,037	15,361	15,229	15,156	15,096	15,055
R-squared	0.054	0.057	0.070	0.072	0.075	0.075	0.123	0.142	0.142	0.153

For workers with upper-secondary or post-secondary education, both over-employment and under-employment are statistically significant and negatively associated with job satisfaction. In this group, the under-employment coefficient is larger in magnitude than the over-employment coefficient, which aligns with Hypothesis 1.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.16: Job Satisfaction and Work-Hour Mismatch: Tertiary

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-0.955***	-1.008***	-1.218***	-1.288***	-1.258***	-1.317***	-1.266***	-0.765***	-0.758***	-0.606**
	(0.265)	(0.270)	(0.250)	(0.256)	(0.251)	(0.253)	(0.243)	(0.233)	(0.232)	(0.237)
Under-employment	-2.946***	-2.849***	-2.572***	-2.651***	-2.724***	-2.943***	-2.478***	-2.476***	-2.467***	-2.601***
	(0.857)	(0.852)	(0.818)	(0.809)	(0.788)	(0.788)	(0.744)	(0.774)	(0.767)	(0.776)
Age/10		-0.179	-0.323**	-0.350**	-0.370***	-0.386***	-0.219	-0.160	-0.175	-0.124
		(0.134)	(0.140)	(0.139)	(0.134)	(0.129)	(0.130)	(0.129)	(0.131)	(0.132)
Age squared		0.035**	0.047***	0.049***	0.050***	0.051***	0.032**	0.025*	0.028*	0.022
		(0.015)	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Gender = 2, Female		0.001	0.024	0.032	0.006	0.006	0.048	0.053	0.057	0.087*
		(0.043)	(0.045)	(0.046)	(0.044)	(0.044)	(0.045)	(0.046)	(0.046)	(0.047)
Household size		0.036**	0.027*	0.026*	0.025*	0.028*	0.039**	0.045***	0.042**	0.040**
		(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)
Urbanization = 2, A village/small town		-0.013	-0.043	-0.041	-0.042	-0.061	-0.047	-0.049	-0.061	-0.054
		(0.094)	(0.088)	(0.087)	(0.087)	(0.088)	(0.088)	(0.085)	(0.085)	(0.081)
Urbanization = 3, A medium to large town		0.016	-0.032	-0.029	-0.034	-0.043	-0.033	-0.033	-0.038	-0.038
		(0.091)	(0.088)	(0.088)	(0.089)	(0.092)	(0.090)	(0.089)	(0.089)	(0.087)
Urbanization = 4, A city or city suburb		-0.181*	-0.252***	-0.250***	-0.244***	-0.238***	-0.228**	-0.234***	-0.240***	-0.235***
		(0.090)	(0.085)	(0.085)	(0.086)	(0.083)	(0.083)	(0.084)	(0.085)	(0.083)
Occupation = 1, Skill level < 3			-0.620***	-0.617***	-0.579***	-0.585***	-0.492***	-0.478***	-0.479***	-0.484***
			(0.052)	(0.051)	(0.050)	(0.052)	(0.051)	(0.049)	(0.048)	(0.049)
Occupation = 2, Skill level = 3			-0.355***	-0.349***	-0.318***	-0.319***	-0.272***	-0.285***	-0.277***	-0.283***
			(0.047)	(0.048)	(0.047)	(0.046)	(0.046)	(0.045)	(0.046)	(0.046)
Occupation = 3, Skill level = 3 & 4			0.206***	0.191***	0.248***	0.214***	0.141**	0.152**	0.153**	0.150**
			(0.063)	(0.061)	(0.066)	(0.069)	(0.065)	(0.065)	(0.065)	(0.064)
Contract type = 1, Permanent contract				0.199**	0.214**	0.209**	0.156*	0.140	0.133	0.135
				(0.085)	(0.085)	(0.085)	(0.086)	(0.085)	(0.085)	(0.084)
Contract type = 3, No written contract				0.378***	0.429***	0.461***	0.438***	0.415***	0.408***	0.402***
				(0.122)	(0.128)	(0.135)	(0.132)	(0.137)	(0.138)	(0.138)
Contract type = 4, Other/missing				0.368***	0.430***	0.408***	0.383***	0.368***	0.357***	0.343***
				(0.098)	(0.104)	(0.105)	(0.099)	(0.100)	(0.101)	(0.102)
Sector = 2, Private sector					-0.198***	-0.191***	-0.207***	-0.186***	-0.191***	-0.194***
					(0.066)	(0.063)	(0.062)	(0.062)	(0.062)	(0.060)
Sector = 3, Other/unknown					0.053	0.078	0.107	0.106	0.102	0.109
					(0.113)	(0.124)	(0.119)	(0.119)	(0.121)	(0.117)
Commute/10 (Winsorised (0.01))						-0.013*	-0.009	-0.006	-0.005	-0.003
						(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.324***	-0.300***	-0.293***	-0.277***
							(0.027)	(0.026)	(0.026)	(0.026)
Work-family balance = 2, Well								0.564***	0.560***	0.485***
								(0.061)	(0.062)	(0.063)
Chronic illness = 1, Yes									-0.273***	-0.251***
									(0.049)	(0.050)
Tired job										0.108***
										(0.014)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	11,831	11,818	11,783	11,783	11,783	11,424	11,348	11,311	11,280	11,237
R-squared	0.028	0.036	0.062	0.064	0.067	0.067	0.100	0.113	0.116	0.122

Among workers with tertiary education, both mismatch categories are also statistically significant and negatively associated with job satisfaction. As in the upper-secondary or post-secondary group, the under-employment association is larger than the over-employment association, supporting Hypothesis 1.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.17: Job Satisfaction and Work-Hour Mismatch: Open-Countryside

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.483***	-1.485***	-1.517***	-1.583***	-1.580***	-1.730***	-1.532***	-0.961*	-0.943*	-0.708
	(0.488)	(0.502)	(0.510)	(0.532)	(0.530)	(0.526)	(0.550)	(0.495)	(0.478)	(0.486)
Under-employment	-1.727**	-1.680**	-1.729**	-1.697**	-1.682**	-1.722*	-0.868	-1.004	-0.977	-1.467
	(0.726)	(0.751)	(0.765)	(0.829)	(0.819)	(0.869)	(0.914)	(0.912)	(0.865)	(0.889)
Age/10		-0.124	-0.174	-0.260	-0.258	-0.251	-0.195	-0.194	-0.158	-0.144
		(0.211)	(0.237)	(0.257)	(0.258)	(0.276)	(0.254)	(0.254)	(0.253)	(0.248)
Age squared		0.022	0.027	0.035	0.035	0.033	0.025	0.023	0.023	0.020
		(0.023)	(0.026)	(0.028)	(0.028)	(0.030)	(0.028)	(0.028)	(0.028)	(0.027)
Gender = 2, Female		0.107	0.124*	0.138*	0.137*	0.109	0.138*	0.143*	0.162**	0.203***
		(0.070)	(0.072)	(0.071)	(0.074)	(0.068)	(0.069)	(0.071)	(0.071)	(0.069)
Education = 2, Upper secondary		0.364***	0.315**	0.300**	0.298**	0.301**	0.275**	0.280**	0.252*	0.223*
		(0.123)	(0.128)	(0.127)	(0.127)	(0.134)	(0.130)	(0.127)	(0.131)	(0.130)
Education = 3, Tertiary		0.550***	0.292	0.288	0.287	0.338*	0.217	0.228	0.212	0.192
		(0.151)	(0.175)	(0.173)	(0.173)	(0.182)	(0.192)	(0.193)	(0.197)	(0.197)
Household size		0.017	0.017	0.017	0.017	0.025	0.034	0.038	0.040	0.044
		(0.049)	(0.048)	(0.046)	(0.047)	(0.048)	(0.048)	(0.047)	(0.045)	(0.046)
Occupation = 1, Skill level < 3			-0.494***	-0.483***	-0.483***	-0.486***	-0.419***	-0.386***	-0.383***	-0.383***
			(0.127)	(0.133)	(0.130)	(0.131)	(0.127)	(0.136)	(0.137)	(0.133)
Occupation = 2, Skill level = 3			-0.246*	-0.252*	-0.253*	-0.266*	-0.286*	-0.273*	-0.253	-0.277*
			(0.134)	(0.138)	(0.135)	(0.144)	(0.157)	(0.149)	(0.149)	(0.145)
Occupation = 3, Skill level = 3 & 4			-0.020	-0.052	-0.056	-0.072	-0.160	-0.114	-0.118	-0.103
			(0.185)	(0.187)	(0.185)	(0.218)	(0.216)	(0.220)	(0.221)	(0.214)
Contract type = 1, Permanent contract				0.408**	0.409**	0.369*	0.331*	0.308*	0.308*	0.298*
				(0.177)	(0.179)	(0.182)	(0.175)	(0.176)	(0.176)	(0.169)
Contract type = 3, No written contract				0.094	0.100	0.153	0.064	0.036	0.031	0.030
				(0.231)	(0.235)	(0.256)	(0.255)	(0.252)	(0.251)	(0.247)
Contract type = 4, Other/missing				0.532***	0.543***	0.430**	0.400**	0.384**	0.387**	0.351**
				(0.155)	(0.148)	(0.157)	(0.165)	(0.162)	(0.164)	(0.160)
Sector = 2, Private sector					-0.002	0.008	0.008	0.023	0.024	0.009
					(0.107)	(0.109)	(0.101)	(0.099)	(0.100)	(0.092)
Sector = 3, Other/unknown					-0.118	-0.198	-0.154	-0.115	-0.066	-0.010
					(0.289)	(0.338)	(0.317)	(0.320)	(0.307)	(0.291)
Commute/10 (Winsorised (0.01))						-0.033*	-0.025	-0.021	-0.019	-0.014
						(0.018)	(0.017)	(0.016)	(0.016)	(0.015)
Income sufficiency							-0.325***	-0.295***	-0.278***	-0.250***
							(0.066)	(0.064)	(0.064)	(0.062)
Work-family balance = 2, Well								0.672***	0.630***	0.486***
								(0.099)	(0.101)	(0.107)
Chronic illness = 1, Yes									-0.470***	-0.413***
									(0.141)	(0.149)
Tired job										0.197***
										(0.041)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	3,173	3,167	3,152	3,152	3,152	2,985	2,963	2,954	2,951	2,940
R-squared	0.065	0.075	0.083	0.088	0.088	0.089	0.120	0.137	0.144	0.161

In the open-countryside the negative associations for both over-employment and under-employment are statistically significant in the baseline specification but become statistically insignificant as additional controls are added. In particular, under-employment loses statistical significance once income sufficiency is included, while over-employment becomes statistically insignificant once job related tiredness is added. This pattern suggests that, in the countryside subsample, the work-hour mismatch associations may be partly accounted for by the control variables. Lower precision due to the smaller subsample may also contribute to the loss of statistical significance.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.18: Job Satisfaction and Work-Hour Mismatch: A Village/Small town

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.731***	-1.785***	-2.023***	-2.017***	-1.979***	-2.082***	-1.797***	-1.102***	-1.092***	-0.877***
	(0.278)	(0.271)	(0.275)	(0.263)	(0.262)	(0.273)	(0.251)	(0.254)	(0.255)	(0.269)
Under-employment	-3.698***	-3.283***	-3.432***	-3.241***	-3.242***	-2.942***	-2.207***	-2.235***	-2.258***	-2.446***
	(0.752)	(0.730)	(0.736)	(0.717)	(0.713)	(0.732)	(0.677)	(0.724)	(0.729)	(0.734)
Age/10		-0.362***	-0.446***	-0.520***	-0.534***	-0.503***	-0.325**	-0.238*	-0.240*	-0.202
		(0.112)	(0.111)	(0.116)	(0.119)	(0.122)	(0.125)	(0.126)	(0.122)	(0.119)
Age squared		0.048***	0.055***	0.062***	0.063***	0.059***	0.038**	0.027*	0.029**	0.023*
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.013)
Gender = 2, Female		-0.046	-0.006	-0.005	-0.022	-0.031	0.019	0.015	0.023	0.047
		(0.043)	(0.044)	(0.043)	(0.044)	(0.043)	(0.044)	(0.043)	(0.043)	(0.043)
Education = 2, Upper secondary		0.263***	0.184**	0.176**	0.171*	0.184**	0.088	0.095	0.094	0.079
		(0.086)	(0.087)	(0.086)	(0.085)	(0.087)	(0.082)	(0.078)	(0.077)	(0.076)
Education = 3, Tertiary		0.759***	0.384***	0.377***	0.352***	0.356***	0.150**	0.159**	0.148**	0.130*
		(0.075)	(0.083)	(0.084)	(0.081)	(0.079)	(0.072)	(0.070)	(0.069)	(0.068)
Household size		0.033	0.027	0.028	0.027	0.025	0.037*	0.050***	0.050***	0.049**
		(0.020)	(0.020)	(0.019)	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.018)
Occupation = 1, Skill level < 3			-0.621***	-0.614***	-0.572***	-0.584***	-0.460***	-0.443***	-0.449***	-0.464***
			(0.090)	(0.091)	(0.091)	(0.089)	(0.082)	(0.079)	(0.077)	(0.077)
Occupation = 2, Skill level = 3			-0.300***	-0.304***	-0.273***	-0.263***	-0.211***	-0.223***	-0.223***	-0.248***
			(0.075)	(0.078)	(0.078)	(0.077)	(0.066)	(0.062)	(0.061)	(0.062)
Occupation = 3, Skill level = 3 & 4			0.309***	0.299***	0.355***	0.334***	0.251**	0.259***	0.257***	0.243**
			(0.083)	(0.084)	(0.087)	(0.088)	(0.093)	(0.093)	(0.091)	(0.089)
Contract type = 1, Permanent contract				0.388***	0.384***	0.389***	0.318***	0.287***	0.286***	0.290***
				(0.089)	(0.091)	(0.093)	(0.089)	(0.093)	(0.090)	(0.088)
Contract type = 3, No written contract				0.229	0.270**	0.202	0.168	0.128	0.123	0.126
				(0.135)	(0.132)	(0.137)	(0.142)	(0.143)	(0.143)	(0.140)
Contract type = 4, Other/missing				0.392***	0.440***	0.413***	0.331**	0.325**	0.323**	0.324**
				(0.127)	(0.127)	(0.135)	(0.130)	(0.134)	(0.134)	(0.131)
Sector = 2, Private sector					-0.207***	-0.209***	-0.199***	-0.174***	-0.177***	-0.171***
					(0.059)	(0.055)	(0.055)	(0.055)	(0.055)	(0.056)
Sector = 3, Other/unknown					-0.271*	-0.305*	-0.260	-0.238	-0.244	-0.236
					(0.159)	(0.167)	(0.168)	(0.169)	(0.174)	(0.175)
Commute/10 (Winsorised (0.01))						-0.024***	-0.018***	-0.011*	-0.011*	-0.008
						(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Income sufficiency							-0.414***	-0.381***	-0.374***	-0.357***
							(0.038)	(0.037)	(0.037)	(0.038)
Work-family balance = 2, Well								0.708***	0.704***	0.622***
								(0.076)	(0.075)	(0.072)
Chronic illness = 1, Yes									-0.208***	-0.177***
									(0.059)	(0.055)
Tired job										0.120***
										(0.018)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	12,621	12,560	12,512	12,512	12,512	12,053	11,955	11,907	11,857	11,822
R-squared	0.048	0.065	0.080	0.083	0.085	0.086	0.130	0.148	0.148	0.155

Both under-employment and over-employment are statistically significant and negatively associated with job satisfaction, with under-employment showing the larger association in magnitude. Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.19: Job Satisfaction and Work-Hour Mismatch: A Medium to Large Town

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.755***	-1.868***	-1.940***	-1.972***	-1.958***	-1.916***	-1.880***	-1.292***	-1.297***	-1.127***
	(0.295)	(0.275)	(0.261)	(0.265)	(0.264)	(0.275)	(0.252)	(0.232)	(0.233)	(0.242)
Under-employment	-3.395***	-2.931***	-2.931***	-2.927***	-2.937***	-2.718***	-2.008***	-2.098***	-2.025***	-2.226***
	(0.729)	(0.703)	(0.753)	(0.747)	(0.743)	(0.748)	(0.728)	(0.725)	(0.724)	(0.687)
Age/10		-0.247	-0.334*	-0.348*	-0.352*	-0.376**	-0.195	-0.173	-0.179	-0.099
		(0.161)	(0.170)	(0.177)	(0.178)	(0.179)	(0.162)	(0.164)	(0.164)	(0.165)
Age squared		0.036*	0.044**	0.044**	0.044**	0.047**	0.026	0.022	0.023	0.014
		(0.019)	(0.020)	(0.021)	(0.021)	(0.021)	(0.019)	(0.019)	(0.019)	(0.020)
Gender = 2, Female		-0.112**	-0.079	-0.073	-0.085	-0.071	-0.013	-0.016	-0.020	0.008
		(0.054)	(0.052)	(0.052)	(0.052)	(0.052)	(0.046)	(0.047)	(0.047)	(0.048)
Education = 2, Upper secondary		0.252**	0.168*	0.163*	0.158*	0.158*	0.057	0.060	0.061	0.037
		(0.092)	(0.093)	(0.091)	(0.090)	(0.090)	(0.083)	(0.083)	(0.081)	(0.083)
Education = 3, Tertiary		0.830***	0.412***	0.408***	0.386***	0.402***	0.170*	0.168*	0.166*	0.135
		(0.115)	(0.112)	(0.110)	(0.108)	(0.109)	(0.099)	(0.097)	(0.097)	(0.100)
Household size		0.026	0.027	0.026	0.025	0.031	0.045**	0.049**	0.047**	0.043**
		(0.020)	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.020)	(0.021)	(0.020)
Occupation = 1, Skill level < 3			-0.686***	-0.679***	-0.650***	-0.632***	-0.509***	-0.492***	-0.500***	-0.502***
			(0.097)	(0.097)	(0.100)	(0.102)	(0.094)	(0.093)	(0.093)	(0.092)
Occupation = 2, Skill level = 3			-0.291***	-0.291***	-0.273***	-0.237**	-0.185**	-0.192**	-0.197**	-0.189**
			(0.089)	(0.088)	(0.089)	(0.091)	(0.088)	(0.088)	(0.086)	(0.084)
Occupation = 3, Skill level = 3 & 4			0.090	0.075	0.115	0.111	0.042	0.064	0.059	0.056
			(0.103)	(0.102)	(0.111)	(0.111)	(0.108)	(0.103)	(0.102)	(0.099)
Contract type = 1, Permanent contract				0.164*	0.166*	0.150*	0.100	0.094	0.092	0.103
				(0.084)	(0.084)	(0.085)	(0.085)	(0.082)	(0.082)	(0.077)
Contract type = 3, No written contract				0.106	0.134	0.067	0.049	0.049	0.047	0.058
				(0.154)	(0.156)	(0.157)	(0.154)	(0.151)	(0.150)	(0.143)
Contract type = 4, Other/missing				0.291***	0.332***	0.300**	0.274**	0.304**	0.300**	0.302***
				(0.098)	(0.103)	(0.112)	(0.113)	(0.111)	(0.111)	(0.107)
Sector = 2, Private sector					-0.138*	-0.152*	-0.165**	-0.138*	-0.136*	-0.136*
					(0.073)	(0.076)	(0.073)	(0.071)	(0.072)	(0.071)
Sector = 3, Other/unknown					-0.267	-0.239	-0.247	-0.237	-0.237	-0.229
					(0.174)	(0.169)	(0.162)	(0.161)	(0.161)	(0.156)
Commute/10 (Winsorised (0.01))						-0.024***	-0.014*	-0.009	-0.008	-0.006
						(0.008)	(0.008)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.423***	-0.390***	-0.385***	-0.362***
							(0.036)	(0.034)	(0.034)	(0.036)
Work-family balance = 2, Well								0.658***	0.661***	0.565***
								(0.070)	(0.070)	(0.070)
Chronic illness = 1, Yes									-0.102	-0.069
									(0.089)	(0.091)
Tired job										0.136***
										(0.023)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	9,237	9,186	9,149	9,149	9,149	8,840	8,779	8,749	8,720	8,691
R-squared	0.049	0.074	0.089	0.090	0.091	0.093	0.140	0.155	0.155	0.162

Both under-employment and over-employment are statistically significant and negatively associated with job satisfaction, with under-employment showing the larger association in magnitude. Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.20: Job Satisfaction and Work-Hour Mismatch: City

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.771***	-1.661***	-1.905***	-1.939***	-1.896***	-1.861***	-1.872***	-1.385***	-1.398***	-1.211***
	(0.286)	(0.255)	(0.257)	(0.260)	(0.251)	(0.250)	(0.234)	(0.242)	(0.248)	(0.266)
Under-employment	-1.338	-0.990	-1.203	-1.227	-1.289	-1.056	-0.622	-0.563	-0.551	-0.682
	(1.298)	(1.322)	(1.117)	(1.050)	(1.020)	(1.100)	(0.764)	(0.837)	(0.834)	(0.912)
Age/10		-0.547***	-0.667***	-0.692***	-0.698***	-0.680***	-0.359**	-0.290**	-0.297**	-0.244*
		(0.122)	(0.118)	(0.118)	(0.118)	(0.120)	(0.132)	(0.129)	(0.128)	(0.120)
Age squared		0.076***	0.087***	0.089***	0.088***	0.086***	0.050***	0.041**	0.043***	0.036**
		(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.016)	(0.015)	(0.015)	(0.014)
Gender = 2, Female		-0.030	0.025	0.033	0.001	0.004	0.049	0.041	0.046	0.085*
		(0.054)	(0.051)	(0.051)	(0.048)	(0.046)	(0.047)	(0.047)	(0.048)	(0.049)
Education = 2, Upper secondary		0.425***	0.368***	0.362***	0.349***	0.387***	0.288***	0.279***	0.279***	0.264***
		(0.080)	(0.078)	(0.076)	(0.074)	(0.077)	(0.076)	(0.075)	(0.075)	(0.076)
Education = 3, Tertiary		0.814***	0.424***	0.424***	0.377***	0.424***	0.199*	0.179	0.180	0.159
		(0.114)	(0.128)	(0.125)	(0.120)	(0.123)	(0.115)	(0.113)	(0.112)	(0.110)
Household size		0.049*	0.042	0.041	0.040	0.041	0.046	0.054*	0.053*	0.050*
		(0.029)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.029)	(0.029)	(0.028)
Occupation = 1, Skill level < 3			-0.629***	-0.612***	-0.558***	-0.578***	-0.457***	-0.458***	-0.454***	-0.458***
			(0.099)	(0.098)	(0.098)	(0.097)	(0.097)	(0.094)	(0.094)	(0.094)
Occupation = 2, Skill level = 3			-0.284***	-0.270***	-0.234***	-0.245***	-0.176**	-0.198***	-0.192**	-0.204***
			(0.076)	(0.074)	(0.071)	(0.070)	(0.068)	(0.070)	(0.071)	(0.071)
Occupation = 3, Skill level = 3 & 4			0.369***	0.352***	0.440***	0.399***	0.264**	0.268**	0.272**	0.274**
			(0.124)	(0.124)	(0.127)	(0.127)	(0.121)	(0.123)	(0.124)	(0.127)
Contract type = 1, Permanent contract				0.263**	0.277**	0.282**	0.167*	0.136	0.131	0.122
				(0.107)	(0.104)	(0.106)	(0.097)	(0.100)	(0.100)	(0.100)
Contract type = 3, No written contract				0.169	0.231	0.240	0.197	0.171	0.172	0.158
				(0.144)	(0.148)	(0.159)	(0.137)	(0.149)	(0.149)	(0.151)
Contract type = 4, Other/missing				0.417**	0.487***	0.484***	0.397**	0.375**	0.373**	0.342**
				(0.153)	(0.163)	(0.170)	(0.150)	(0.154)	(0.154)	(0.155)
Sector = 2, Private sector					-0.348***	-0.325***	-0.351***	-0.308***	-0.320***	-0.311***
					(0.093)	(0.093)	(0.083)	(0.081)	(0.084)	(0.084)
Sector = 3, Other/unknown					-0.242*	-0.216	-0.231	-0.156	-0.167	-0.136
					(0.138)	(0.140)	(0.139)	(0.143)	(0.146)	(0.139)
Commute/10 (Winsorised (0.01))						-0.029***	-0.023***	-0.018**	-0.018**	-0.015*
						(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Income sufficiency							-0.424***	-0.392***	-0.386***	-0.366***
							(0.033)	(0.033)	(0.033)	(0.035)
Work-family balance = 2, Well								0.598***	0.587***	0.481***
								(0.074)	(0.076)	(0.079)
Chronic illness = 1, Yes									-0.221***	-0.183**
									(0.080)	(0.084)
Tired job										0.146***
										(0.018)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	8,816	8,756	8,721	8,721	8,721	8,387	8,328	8,286	8,259	8,233
R-squared	0.039	0.059	0.078	0.081	0.086	0.090	0.138	0.151	0.153	0.161

For respondents living in cities, only over-employment is consistently statistically significant, while under-employment is not statistically significant across specifications. Limited precision may again play a role: among 8,816 city observations, about 1,000 respondents report being under-employed, which may be insufficient to identify a robust association once the full set of controls and fixed effects is included.
Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.21: Job Satisfaction and Work-Hour Mismatch: 2012

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.387***	-1.383***	-1.591***	-1.590***	-1.536***	-1.565***	-1.534***	-0.833***	-0.854***	-0.675***
	(0.233)	(0.226)	(0.223)	(0.215)	(0.211)	(0.202)	(0.185)	(0.181)	(0.185)	(0.188)
Under-employment	-3.185***	-2.720***	-2.699***	-2.608***	-2.621***	-2.218***	-1.514**	-1.607**	-1.557**	-1.812***
	(0.624)	(0.608)	(0.633)	(0.644)	(0.637)	(0.625)	(0.596)	(0.611)	(0.607)	(0.600)
Age/10		-0.369***	-0.449***	-0.490***	-0.511***	-0.508***	-0.289***	-0.216**	-0.217**	-0.159
		(0.091)	(0.096)	(0.100)	(0.100)	(0.103)	(0.099)	(0.095)	(0.095)	(0.094)
Age squared		0.056***	0.063***	0.066***	0.067***	0.068***	0.042***	0.032***	0.033***	0.025**
		(0.010)	(0.011)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
Gender = 2, Female		-0.086***	-0.039	-0.037	-0.062*	-0.065*	-0.013	-0.029	-0.023	0.009
		(0.029)	(0.029)	(0.029)	(0.032)	(0.036)	(0.033)	(0.032)	(0.032)	(0.034)
Education = 2, Upper secondary		0.321***	0.245**	0.240**	0.231**	0.249**	0.159*	0.151*	0.144*	0.123
		(0.096)	(0.095)	(0.094)	(0.092)	(0.092)	(0.081)	(0.080)	(0.081)	(0.082)
Education = 3, Tertiary		0.818***	0.423***	0.419***	0.381***	0.405***	0.200**	0.192**	0.179**	0.157**
		(0.095)	(0.095)	(0.094)	(0.089)	(0.093)	(0.076)	(0.074)	(0.075)	(0.071)
Household size		0.030**	0.027**	0.027**	0.026**	0.029**	0.038***	0.046***	0.045***	0.042***
		(0.012)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)
Urbanization = 2, A village/small town		-0.234***	-0.243***	-0.243***	-0.239***	-0.234***	-0.216**	-0.212***	-0.222***	-0.213***
		(0.083)	(0.081)	(0.081)	(0.077)	(0.081)	(0.081)	(0.077)	(0.075)	(0.075)
Urbanization = 3, A medium to large town		-0.175**	-0.197***	-0.195***	-0.193***	-0.194**	-0.165**	-0.157**	-0.164**	-0.154**
		(0.072)	(0.072)	(0.071)	(0.069)	(0.071)	(0.071)	(0.066)	(0.062)	(0.065)
Urbanization = 4, A city or city suburb		-0.333***	-0.370***	-0.369***	-0.361***	-0.327***	-0.288***	-0.283***	-0.292***	-0.272***
		(0.065)	(0.066)	(0.065)	(0.062)	(0.071)	(0.075)	(0.071)	(0.068)	(0.068)
Occupation = 1, Skill level < 3			-0.656***	-0.654***	-0.595***	-0.597***	-0.493***	-0.469***	-0.477***	-0.490***
			(0.063)	(0.062)	(0.057)	(0.053)	(0.053)	(0.051)	(0.051)	(0.048)
Occupation = 2, Skill level = 3			-0.289***	-0.293***	-0.255***	-0.245***	-0.198***	-0.211***	-0.208***	-0.218***
			(0.049)	(0.049)	(0.046)	(0.051)	(0.045)	(0.047)	(0.046)	(0.047)
Occupation = 3, Skill level = 3 & 4			0.274***	0.266***	0.350***	0.333***	0.249***	0.265***	0.264***	0.257***
			(0.057)	(0.058)	(0.059)	(0.065)	(0.058)	(0.058)	(0.058)	(0.058)
Contract type = 1, Permanent contract				0.220**	0.222**	0.214**	0.159*	0.133	0.132	0.136
				(0.096)	(0.096)	(0.103)	(0.093)	(0.091)	(0.092)	(0.088)
Contract type = 3, No written contract				0.137	0.195	0.175	0.107	0.082	0.078	0.080
				(0.124)	(0.126)	(0.135)	(0.123)	(0.126)	(0.128)	(0.124)
Contract type = 4, Other/missing				0.223	0.280**	0.263*	0.232*	0.230*	0.226*	0.232*
				(0.132)	(0.134)	(0.146)	(0.131)	(0.124)	(0.124)	(0.120)
Sector = 2, Private sector					-0.287***	-0.287***	-0.293***	-0.260***	-0.265***	-0.258***
					(0.058)	(0.060)	(0.059)	(0.058)	(0.059)	(0.057)
Sector = 3, Other/unknown					-0.294**	-0.310**	-0.253**	-0.217*	-0.213*	-0.203*
					(0.120)	(0.121)	(0.110)	(0.107)	(0.108)	(0.107)
Commute/10 (Winsorised (0.01))						-0.027***	-0.019***	-0.012**	-0.012**	-0.009*
						(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Income sufficiency							-0.414***	-0.382***	-0.376***	-0.358***
							(0.030)	(0.029)	(0.028)	(0.028)
Work-family balance = 2, Well								0.744***	0.735***	0.641***
								(0.056)	(0.057)	(0.058)
Chronic illness = 1, Yes									-0.183***	-0.146**
									(0.056)	(0.057)
Tired job										0.138***
										(0.018)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	17,390	17,251	17,179	17,179	17,179	16,138	15,987	15,923	15,836	15,788
R-squared	0.039	0.061	0.078	0.079	0.083	0.083	0.127	0.146	0.146	0.153

In 2012, both over-employment and under-employment are statistically significant across all specifications. Under-employment shows the larger association in magnitude in every model, indicating that the under-employment penalty is consistently stronger than the over-employment penalty in 2012. One possible interpretation is that, in the post crisis environment, under-employment may have been more closely tied to financial strain, making its association with job satisfaction particularly pronounced.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.22: Job Satisfaction and Work-Hour Mismatch: 2016

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-2.063***	-2.063***	-2.215***	-2.278***	-2.264***	-2.258***	-2.032***	-1.533***	-1.508***	-1.277***
	(0.313)	(0.282)	(0.275)	(0.282)	(0.280)	(0.276)	(0.293)	(0.298)	(0.294)	(0.303)
Under-employment	-2.130**	-1.802*	-2.042**	-2.024**	-2.013**	-2.052**	-1.477**	-1.437**	-1.421**	-1.580**
	(1.036)	(1.015)	(0.829)	(0.750)	(0.755)	(0.780)	(0.598)	(0.649)	(0.644)	(0.690)
Age/10		-0.419***	-0.513***	-0.560***	-0.562***	-0.555***	-0.362***	-0.325**	-0.332***	-0.286**
		(0.094)	(0.106)	(0.112)	(0.113)	(0.114)	(0.120)	(0.120)	(0.118)	(0.119)
Age squared		0.053***	0.062***	0.065***	0.065***	0.064***	0.042***	0.037**	0.039***	0.033**
		(0.011)	(0.012)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.013)	(0.014)
Gender = 2, Female		0.008	0.039	0.053	0.041	0.038	0.081	0.088*	0.094*	0.121**
		(0.049)	(0.049)	(0.049)	(0.047)	(0.048)	(0.050)	(0.048)	(0.048)	(0.047)
Education = 2, Upper secondary o		0.333***	0.264***	0.252***	0.247***	0.249***	0.155**	0.162**	0.166**	0.147**
		(0.066)	(0.068)	(0.066)	(0.066)	(0.066)	(0.062)	(0.062)	(0.061)	(0.058)
Education = 3, Tertiary		0.747***	0.396***	0.391***	0.374***	0.389***	0.175**	0.175**	0.179**	0.153*
		(0.095)	(0.094)	(0.092)	(0.090)	(0.090)	(0.083)	(0.082)	(0.080)	(0.079)
Household size		0.043**	0.039**	0.037**	0.036**	0.038**	0.052***	0.061***	0.059***	0.058***
		(0.017)	(0.016)	(0.017)	(0.017)	(0.017)	(0.017)	(0.016)	(0.016)	(0.016)
Urbanization = 2, A village/small town		-0.035	-0.057	-0.050	-0.046	-0.047	-0.032	-0.032	-0.038	-0.035
		(0.074)	(0.073)	(0.072)	(0.073)	(0.071)	(0.067)	(0.069)	(0.069)	(0.069)
Urbanization = 3, A medium to large town		-0.051	-0.072	-0.059	-0.058	-0.063	-0.034	-0.019	-0.027	-0.025
		(0.080)	(0.083)	(0.080)	(0.080)	(0.078)	(0.076)	(0.076)	(0.076)	(0.074)
Urbanization = 4, A city or city suburb		-0.118	-0.151	-0.145	-0.138	-0.122	-0.111	-0.103	-0.111	-0.112
		(0.104)	(0.104)	(0.104)	(0.106)	(0.105)	(0.103)	(0.104)	(0.103)	(0.102)
Occupation = 1, Skill level < 3			-0.570***	-0.544***	-0.520***	-0.529***	-0.402***	-0.401***	-0.399***	-0.400***
			(0.071)	(0.071)	(0.071)	(0.073)	(0.072)	(0.071)	(0.071)	(0.071)
Occupation = 2, Skill level = 3			-0.261***	-0.249***	-0.232***	-0.226***	-0.173**	-0.184**	-0.183**	-0.195***
			(0.073)	(0.072)	(0.070)	(0.071)	(0.070)	(0.069)	(0.069)	(0.069)
Occupation = 3, Skill level = 3 & 4			0.212**	0.179*	0.212**	0.195*	0.097	0.106	0.107	0.107
			(0.093)	(0.091)	(0.099)	(0.099)	(0.090)	(0.092)	(0.092)	(0.093)
Contract type = 1, Permanent contract				0.380***	0.382***	0.380***	0.287***	0.266***	0.262***	0.260***
				(0.084)	(0.085)	(0.086)	(0.082)	(0.084)	(0.085)	(0.084)
Contract type = 3, No written contract				0.059	0.081	0.066	0.101	0.082	0.078	0.089
				(0.185)	(0.186)	(0.189)	(0.177)	(0.182)	(0.182)	(0.178)
Contract type = 4, Other/missing				0.536***	0.575***	0.538***	0.451***	0.447***	0.443***	0.422***
				(0.112)	(0.113)	(0.115)	(0.111)	(0.111)	(0.113)	(0.112)
Sector = 2, Private sector					-0.133**	-0.128*	-0.139**	-0.112*	-0.114*	-0.113*
					(0.064)	(0.065)	(0.062)	(0.060)	(0.062)	(0.060)
Sector = 3, Other/unknown					-0.210*	-0.205*	-0.243**	-0.212*	-0.215*	-0.189*
					(0.111)	(0.115)	(0.102)	(0.106)	(0.106)	(0.105)
Commute/10 (Winsorised (0.01))						-0.024***	-0.018**	-0.013*	-0.013*	-0.010
						(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.401***	-0.369***	-0.361***	-0.337***
							(0.032)	(0.032)	(0.031)	(0.032)
Work-family balance = 2, Well								0.579***	0.575***	0.473***
								(0.061)	(0.061)	(0.062)
Chronic illness = 1, Yes									-0.244***	-0.206***
									(0.066)	(0.066)
Tired job										0.142***
										(0.019)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	16,493	16,418	16,355	16,355	16,355	16,127	16,038	15,973	15,951	15,898
R-squared	0.055	0.072	0.085	0.090	0.091	0.093	0.137	0.150	0.152	0.160

In 2016, as in 2012, both mismatch measures are statistically significant across specifications. However, the relative magnitudes differ: in most models, the over-employment coefficient is larger in magnitude than the under-employment coefficient. The main exceptions are Model 1 and Model 10. In Model 1, the two coefficients are very close to each other, while in Model 10 the inclusion of the work-related fatigue measure appears to absorb part of the over-employment association, reducing the over-employment coefficient. A possible interpretation is that, as macroeconomic conditions improved relative to 2012, financial pressures may have eased somewhat, while time pressure and fatigue related to long hours became relatively more salient, strengthening the over-employment association in 2016.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.23: Job Satisfaction and Work-Hour Mismatch (Chronic Illness: Yes)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-2.273***	-2.294***	-2.628***	-2.671***	-2.644***	-2.772***	-2.637***	-1.932***	-1.932***	-1.718***
	(0.525)	(0.431)	(0.421)	(0.422)	(0.421)	(0.460)	(0.447)	(0.483)	(0.483)	(0.497)
Under-employment	-1.988**	-1.636*	-1.786**	-1.724**	-1.635*	-1.408	-0.411	-0.449	-0.449	-0.679
	(0.871)	(0.859)	(0.823)	(0.822)	(0.840)	(0.868)	(0.826)	(0.852)	(0.852)	(0.855)
Age/10		-0.723***	-0.709***	-0.733***	-0.740***	-0.676***	-0.450***	-0.419**	-0.419**	-0.397**
		(0.165)	(0.180)	(0.185)	(0.182)	(0.180)	(0.159)	(0.158)	(0.158)	(0.161)
Age squared		0.097***	0.093***	0.095***	0.095***	0.088***	0.061***	0.056***	0.056***	0.052***
		(0.018)	(0.020)	(0.020)	(0.020)	(0.020)	(0.018)	(0.018)	(0.018)	(0.018)
Gender = 2, Female		0.020	0.059	0.059	0.036	0.034	0.093	0.080	0.080	0.137*
		(0.072)	(0.073)	(0.073)	(0.075)	(0.075)	(0.078)	(0.074)	(0.074)	(0.074)
Education = 2, Upper secondary		0.401***	0.314***	0.308***	0.306***	0.319**	0.251**	0.277**	0.277**	0.248**
		(0.115)	(0.114)	(0.111)	(0.110)	(0.120)	(0.111)	(0.115)	(0.115)	(0.117)
Education = 3, Tertiary		0.742***	0.324**	0.322**	0.298**	0.301**	0.130	0.148	0.148	0.100
		(0.161)	(0.149)	(0.145)	(0.141)	(0.144)	(0.129)	(0.133)	(0.133)	(0.135)
Household size		0.086***	0.075**	0.073**	0.073**	0.077**	0.080**	0.085**	0.085**	0.077**
		(0.030)	(0.030)	(0.031)	(0.031)	(0.033)	(0.033)	(0.032)	(0.032)	(0.033)
Urbanization = 2, A village/small town		0.029	-0.004	-0.000	0.002	0.003	0.031	0.005	0.005	-0.001
		(0.111)	(0.112)	(0.116)	(0.115)	(0.123)	(0.115)	(0.118)	(0.118)	(0.119)
Urbanization = 3, A medium to large town		0.098	0.053	0.057	0.057	0.078	0.115	0.118	0.118	0.114
		(0.142)	(0.142)	(0.144)	(0.143)	(0.154)	(0.148)	(0.148)	(0.148)	(0.148)
Urbanization = 4, A city or city suburb		-0.080	-0.130	-0.127	-0.123	-0.104	-0.059	-0.043	-0.043	-0.043
		(0.131)	(0.125)	(0.126)	(0.125)	(0.127)	(0.127)	(0.134)	(0.134)	(0.137)
Occupation = 1, Skill level < 3			-0.672***	-0.666***	-0.631***	-0.685***	-0.522***	-0.496***	-0.496***	-0.505***
			(0.107)	(0.110)	(0.105)	(0.108)	(0.104)	(0.106)	(0.106)	(0.107)
Occupation = 2, Skill level = 3			-0.311***	-0.311***	-0.292***	-0.313***	-0.225*	-0.227**	-0.227**	-0.233**
			(0.107)	(0.111)	(0.104)	(0.114)	(0.112)	(0.111)	(0.111)	(0.107)
Occupation = 3, Skill level = 3 & 4			0.315***	0.299**	0.350***	0.276**	0.221*	0.255**	0.255**	0.247**
			(0.107)	(0.109)	(0.108)	(0.116)	(0.115)	(0.116)	(0.116)	(0.113)
Contract type = 1, Permanent contract				0.250	0.250	0.259	0.200	0.201	0.201	0.217
				(0.160)	(0.160)	(0.169)	(0.142)	(0.141)	(0.141)	(0.139)
Contract type = 3, No written contract				0.014	0.078	0.127	0.157	0.118	0.118	0.081
				(0.229)	(0.226)	(0.218)	(0.213)	(0.201)	(0.201)	(0.192)
Contract type = 4, Other/missing				0.350**	0.414**	0.411**	0.411**	0.392**	0.392**	0.385**
				(0.166)	(0.169)	(0.188)	(0.154)	(0.155)	(0.155)	(0.157)
Sector = 2, Private sector					-0.195**	-0.171*	-0.180*	-0.148	-0.148	-0.144
					(0.090)	(0.091)	(0.091)	(0.089)	(0.089)	(0.087)
Sector = 3, Other/unknown					-0.429**	-0.399*	-0.433**	-0.283	-0.283	-0.245
					(0.192)	(0.213)	(0.203)	(0.200)	(0.200)	(0.214)
Commute/10 (Winsorised (0.01))						-0.027**	-0.022*	-0.016	-0.016	-0.012
						(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Income sufficiency							-0.375***	-0.340***	-0.340***	-0.319***
							(0.051)	(0.052)	(0.052)	(0.052)
Work-family balance = 2, Well								0.798***	0.798***	0.708***
								(0.104)	(0.104)	(0.110)
Tired job										0.145***
										(0.022)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,950	5,909	5,876	5,876	5,876	5,633	5,612	5,582	5,582	5,564
R-squared	0.057	0.079	0.096	0.098	0.100	0.100	0.137	0.158	0.158	0.166

Over-employment is negatively associated with job satisfaction across all specifications, and the magnitude of this association is larger than in the group without chronic illness. Under-employment is statistically significant in the earlier specifications but becomes statistically insignificant once income sufficiency is included. The loss of significance is likely related to limited precision. Under-employment is relatively uncommon in this subsample (874 under-employed out of 5950 respondents), and adding controls can increase standard errors and reduce statistical power.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.24: Job Satisfaction and Work-Hour Mismatch (Chronic illness: No)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.602***	-1.607***	-1.752***	-1.775***	-1.742***	-1.750***	-1.613***	-1.058***	-1.058***	-0.856***
	(0.186)	(0.163)	(0.160)	(0.155)	(0.150)	(0.153)	(0.152)	(0.156)	(0.156)	(0.168)
Under-employment	-2.837***	-2.461***	-2.566***	-2.515***	-2.542***	-2.361***	-1.829***	-1.842***	-1.842***	-2.038***
	(0.720)	(0.691)	(0.594)	(0.563)	(0.563)	(0.563)	(0.452)	(0.500)	(0.500)	(0.538)
Age/10		-0.282***	-0.392***	-0.438***	-0.448***	-0.446***	-0.251***	-0.191**	-0.191**	-0.134
		(0.080)	(0.087)	(0.089)	(0.089)	(0.093)	(0.088)	(0.086)	(0.086)	(0.086)
Age squared		0.043***	0.053***	0.057***	0.057***	0.057***	0.034***	0.025**	0.025**	0.018*
		(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
Gender = 2, Female		-0.043	-0.005	0.002	-0.017	-0.019	0.023	0.020	0.020	0.045
		(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.029)	(0.029)	(0.029)	(0.029)
Education = 2, Upper secondary		0.276***	0.208***	0.201***	0.195***	0.205***	0.113*	0.114*	0.114*	0.096
		(0.068)	(0.067)	(0.065)	(0.064)	(0.064)	(0.059)	(0.057)	(0.057)	(0.057)
Education = 3, Tertiary		0.765***	0.399***	0.395***	0.368***	0.392***	0.181***	0.178***	0.178***	0.159***
		(0.066)	(0.070)	(0.068)	(0.063)	(0.065)	(0.055)	(0.051)	(0.051)	(0.049)
Household size		0.029**	0.027**	0.027**	0.026**	0.027**	0.040***	0.049***	0.049***	0.048***
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.010)	(0.010)	(0.010)
Urbanization = 2, A village/small town		-0.216***	-0.225***	-0.223***	-0.218***	-0.209***	-0.189***	-0.184***	-0.184***	-0.175***
		(0.054)	(0.052)	(0.052)	(0.051)	(0.050)	(0.056)	(0.054)	(0.054)	(0.056)
Urbanization = 3, A medium to large town		-0.204***	-0.220***	-0.213***	-0.212***	-0.213***	-0.181***	-0.168***	-0.168***	-0.160**
		(0.053)	(0.054)	(0.054)	(0.054)	(0.057)	(0.060)	(0.058)	(0.058)	(0.060)
Urbanization = 4, A city or city suburb		-0.296***	-0.327***	-0.324***	-0.314***	-0.283***	-0.258***	-0.252***	-0.252***	-0.241***
		(0.045)	(0.045)	(0.044)	(0.046)	(0.047)	(0.056)	(0.057)	(0.057)	(0.060)
Occupation = 1, Skill level < 3			-0.608***	-0.597***	-0.553***	-0.550***	-0.444***	-0.434***	-0.434***	-0.441***
			(0.063)	(0.061)	(0.061)	(0.060)	(0.060)	(0.058)	(0.058)	(0.056)
Occupation = 2, Skill level = 3			-0.265***	-0.263***	-0.234***	-0.219***	-0.180***	-0.192***	-0.192***	-0.206***
			(0.059)	(0.058)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.055)
Occupation = 3, Skill level = 3 & 4			0.220***	0.204***	0.266***	0.255***	0.154**	0.167**	0.167**	0.165**
			(0.075)	(0.074)	(0.079)	(0.081)	(0.073)	(0.075)	(0.075)	(0.074)
Contract type = 1, Permanent contract				0.301***	0.304***	0.296***	0.220***	0.196***	0.196***	0.194***
				(0.066)	(0.065)	(0.065)	(0.063)	(0.063)	(0.063)	(0.060)
Contract type = 3, No written contract				0.209*	0.248**	0.201*	0.150	0.128	0.128	0.134
				(0.109)	(0.108)	(0.112)	(0.105)	(0.111)	(0.111)	(0.107)
Contract type = 4, Other/missing				0.385***	0.434***	0.400***	0.329***	0.329***	0.329***	0.318***
				(0.090)	(0.092)	(0.096)	(0.091)	(0.090)	(0.090)	(0.088)
Sector = 2, Private sector					-0.224***	-0.228***	-0.232***	-0.203***	-0.203***	-0.199***
					(0.052)	(0.051)	(0.048)	(0.047)	(0.047)	(0.045)
Sector = 3, Other/unknown					-0.208**	-0.227**	-0.213**	-0.190**	-0.190**	-0.174**
					(0.092)	(0.089)	(0.081)	(0.081)	(0.081)	(0.080)
Commute/10 (Winsorised (0.01))						-0.025***	-0.018***	-0.012**	-0.012**	-0.009*
						(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Income sufficiency							-0.411***	-0.380***	-0.380***	-0.360***
							(0.025)	(0.024)	(0.024)	(0.024)
Work-family balance = 2, Well								0.623***	0.623***	0.521***
								(0.049)	(0.049)	(0.049)
Tired job										0.139***
										(0.015)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	27,804	27,635	27,535	27,535	27,535	26,519	26,303	26,205	26,205	26,122
R-squared	0.044	0.064	0.079	0.081	0.083	0.085	0.129	0.144	0.144	0.152

For respondents without a diagnosed chronic illness, over-employment remains negatively associated with job satisfaction across specifications, but the magnitude is smaller than in the chronic illness subsample. Under-employment is statistically significant in all models and is larger in magnitude than over-employment, which suggests a more persistent under-employment penalty in this group.

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.25: OLS Results for Welfare States

Variables	(1) Whole sample	(2) Türkiye excluded	(3) Whole sample	(4) Türkiye excluded
Over-employment	-1.917***	-1.681***	-1.654***	-1.655***
	(0.260)	(0.184)	(0.254)	(0.254)
Under-employment	-2.893***	-3.296***	-1.355*	-1.351*
	(0.596)	(0.583)	(0.794)	(0.795)
welfare_states = 1, Social-Democratic	0.700***	0.703***	0.695***	0.695***
	(0.130)	(0.129)	(0.123)	(0.123)
welfare_states = 2, Conservative-Corporatist	0.329***	0.334***	0.347***	0.347***
	(0.113)	(0.112)	(0.104)	(0.104)
welfare_states = 3, Liberal	0.278**	0.282**	0.316***	0.316***
	(0.121)	(0.122)	(0.103)	(0.103)
welfare_states = 4, Southern European	-0.088	-0.019	0.044	0.095
	(0.134)	(0.135)	(0.109)	(0.107)
1.welfare_states#c.over_norm			0.510	0.508
			(0.395)	(0.395)
2.welfare_states#c.over_norm			0.498	0.497
			(0.299)	(0.299)
3.welfare_states#c.over_norm			0.010	0.010
			(0.271)	(0.271)
4.welfare_states#c.over_norm			-1.289**	-0.720
			(0.580)	(0.617)
1.welfare_states#c.under_norm			-1.578	-1.581
			(1.092)	(1.092)
2.welfare_states#c.under_norm			-2.932***	-2.936***
			(0.930)	(0.930)
3.welfare_states#c.under_norm			-2.515**	-2.519**
			(1.035)	(1.035)
4.welfare_states#c.under_norm			-2.263	-4.543***
			(1.637)	(1.319)
EQLS Wave	✓	✓	✓	✓
Constant	✓	✓	✓	✓
Observations	33,883	32,706	33,883	32,706
R-squared	0.027	0.024	0.029	0.026

Standard errors clustered at the country level in parentheses (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.26: Comparisons of Job Satisfaction Across Welfare Regimes (Türkiye excluded)

Contrast	Contrast	Std. err.	t	p (Bonf.)	95% CI
Conservative-Corporatist vs Social-Democratic	-0.368	0.141	-2.620	0.137	[-0.795, 0.058]
Liberal vs Social-Democratic	-0.420	0.148	-2.840	0.080	[-0.869, 0.028]
Southern European vs Social-Democratic	-0.722	0.158	-4.560	0.001	[-1.202, -0.242]
Central and Eastern European vs Social-Democratic	-0.703	0.129	-5.430	0.000	[-1.094, -0.311]
Liberal vs Conservative-Corporatist	-0.052	0.133	-0.390	1.000	[-0.455, 0.351]
Southern European vs Conservative-Corporatist	-0.353	0.145	-2.440	0.207	[-0.792, 0.085]
Central and Eastern European vs Conservative-Corporatist	-0.334	0.112	-2.980	0.057	[-0.674, 0.006]
Southern European vs Liberal	-0.301	0.153	-1.970	0.578	[-0.765, 0.162]
Central and Eastern European vs Liberal	-0.282	0.122	-2.320	0.273	[-0.650, 0.086]
Central and Eastern European vs Southern European	0.019	0.135	0.140	1.000	[-0.391, 0.430]

Notes: Entries report Bonferroni-adjusted pairwise differences in mean outcomes across welfare regimes. Negative values indicate the first group has a lower value than the second group.

Table B.27: Average Marginal Effects of Work-Hour Mismatch by Welfare Regime

Panel A: Türkiye included (N=33,883)

	Over-employment	Under-employment
Social-Democratic	-1.144***	-2.932***
	(0.288)	(0.756)
Conservative-Corporatist	-1.156***	-4.287***
	(0.145)	(0.473)
Liberal	-1.644***	-3.869***
	(0.064)	(0.675)
Southern European	-2.943***	-3.617**
	(0.520)	(1.432)
Central and Eastern European	-1.654***	-1.355*
	(0.254)	(0.794)

Panel B: Türkiye excluded (N=32,706)

	Over-employment	Under-employment
Social-Democratic	-1.147***	-2.932***
	(0.288)	(0.757)
Conservative-Corporatist	-1.158***	-4.287***
	(0.145)	(0.473)
Liberal	-1.646***	-3.870***
	(0.065)	(0.675)
Southern European	-2.375***	-5.894***
	(0.560)	(1.055)
Central and Eastern European	-1.655***	-1.351*
	(0.254)	(0.795)

Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table B.28: Job Satisfaction and Work-Hour Mismatch (Social-Democratic Regime)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.069***	-1.114***	-1.431***	-1.504***	-1.511***	-1.571***	-1.566***	-1.072***	-1.030**	-0.741*
	(0.407)	(0.408)	(0.407)	(0.411)	(0.411)	(0.422)	(0.420)	(0.415)	(0.411)	(0.415)
Under-employment	-2.932***	-2.309**	-2.177*	-2.357**	-2.289*	-2.579**	-2.289*	-2.126*	-2.025*	-2.037*
	(1.076)	(1.122)	(1.152)	(1.168)	(1.182)	(1.214)	(1.214)	(1.186)	(1.172)	(1.184)
Age/10		-0.339*	-0.373*	-0.330	-0.329	-0.362*	-0.276	-0.331	-0.320	-0.294
		(0.200)	(0.201)	(0.203)	(0.203)	(0.206)	(0.210)	(0.208)	(0.207)	(0.208)
Age squared		0.056**	0.057***	0.052**	0.052**	0.056**	0.045*	0.050**	0.049**	0.044*
		(0.022)	(0.022)	(0.022)	(0.022)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Gender = 2, Female		-0.078	-0.033	-0.027	-0.022	-0.021	-0.009	-0.009	-0.004	0.045
		(0.071)	(0.070)	(0.071)	(0.073)	(0.074)	(0.074)	(0.073)	(0.073)	(0.074)
Education = 2, Upper secondary or post-secondary		0.027	0.004	0.020	0.021	0.001	-0.012	-0.003	-0.006	-0.025
		(0.140)	(0.139)	(0.140)	(0.140)	(0.143)	(0.143)	(0.142)	(0.143)	(0.144)
Education = 3, Tertiary		0.082	-0.117	-0.098	-0.097	-0.110	-0.133	-0.115	-0.123	-0.141
		(0.138)	(0.147)	(0.149)	(0.150)	(0.153)	(0.153)	(0.152)	(0.153)	(0.153)
Household size		0.067**	0.050*	0.049*	0.049*	0.049*	0.058**	0.058**	0.053*	0.049*
		(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Urbanization = 2, A village/small town		0.003	0.006	0.023	0.024	0.001	-0.008	-0.052	-0.065	-0.079
		(0.107)	(0.105)	(0.107)	(0.107)	(0.109)	(0.108)	(0.107)	(0.107)	(0.107)
Urbanization = 3, A medium to large town		0.066	0.026	0.039	0.040	0.020	-0.007	-0.028	-0.037	-0.025
		(0.099)	(0.099)	(0.100)	(0.100)	(0.102)	(0.101)	(0.100)	(0.100)	(0.100)
Urbanization = 4, A city or city suburb		-0.204*	-0.277**	-0.266**	-0.262**	-0.276**	-0.315***	-0.325***	-0.326***	-0.323***
		(0.107)	(0.108)	(0.109)	(0.108)	(0.110)	(0.110)	(0.107)	(0.107)	(0.106)
Occupation = 1, Skill level < 3			-0.328***	-0.328***	-0.334***	-0.345***	-0.282***	-0.248**	-0.251**	-0.251**
			(0.102)	(0.102)	(0.104)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)
Occupation = 2, Skill level = 3			-0.037	-0.035	-0.042	-0.043	-0.018	-0.003	-0.001	-0.005
			(0.112)	(0.112)	(0.113)	(0.114)	(0.114)	(0.114)	(0.114)	(0.113)
Occupation = 3, Skill level = 3 & 4			0.423***	0.390***	0.382***	0.365***	0.341***	0.365***	0.368***	0.357***
			(0.114)	(0.114)	(0.116)	(0.118)	(0.119)	(0.119)	(0.119)	(0.120)
Contract type = 1, Permanent contract				-0.045	-0.048	-0.046	-0.057	-0.064	-0.074	-0.040
				(0.122)	(0.124)	(0.125)	(0.124)	(0.127)	(0.126)	(0.127)
Contract type = 3, No written contract				-0.005	-0.006	-0.059	-0.020	0.001	0.025	0.033
				(0.340)	(0.344)	(0.384)	(0.395)	(0.395)	(0.398)	(0.393)
Contract type = 4, Other/missing				0.163	0.168	0.106	0.156	0.118	0.097	0.111
				(0.171)	(0.176)	(0.179)	(0.177)	(0.178)	(0.178)	(0.181)
Sector = 2, Private sector					0.013	0.012	0.010	0.021	0.012	0.000
					(0.082)	(0.082)	(0.082)	(0.082)	(0.083)	(0.083)
Sector = 3, Other/unknown					-0.174	-0.254	-0.248	-0.202	-0.217	-0.227
					(0.288)	(0.303)	(0.300)	(0.298)	(0.295)	(0.297)
Commute/10 (Winsorised (0.01))						-0.011	-0.011	-0.010	-0.009	-0.005
						(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Income sufficiency							-0.169***	-0.143***	-0.135***	-0.112***
							(0.036)	(0.036)	(0.036)	(0.036)
Work-family balance = 2, Well								0.672***	0.665***	0.605***
								(0.119)	(0.119)	(0.119)
Chronic illness = 1, Yes									-0.203***	-0.157**
									(0.077)	(0.078)
Tired job										0.143***
										(0.028)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	3,100	3,086	3,077	3,077	3,077	2,998	2,986	2,979	2,967	2,955
R-squared	0.007	0.024	0.039	0.040	0.041	0.040	0.051	0.066	0.069	0.080

Both over-employment and under-employment are statistically significant across all model specifications in the social-democratic group, and the effect of under-employment is stronger than that of over-employment, which is consistent with Hypothesis 1. In contrast, several covariates that are statistically significant in the full sample, including education, living in a small town or in a medium to large town, having a permanent contract, public sector employment, and commuting, do not appear to be statistically significant in this group. Age is not statistically significant across models, unlike in the full sample. In addition, skill level 3 does not appear to be statistically significant in this subgroup. Work-family balance, a diagnosis of chronic illness, and job related fatigue remain statistically significant.

*Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.29: Job Satisfaction and Work-Hour Mismatch (Conservative-Corporatist Regime)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.167***	-1.392***	-1.636***	-1.739***	-1.766***	-1.800***	-1.731***	-1.130***	-1.117***	-0.884**
	(0.331)	(0.333)	(0.343)	(0.346)	(0.348)	(0.370)	(0.373)	(0.368)	(0.367)	(0.363)
Under-employment	-4.286***	-3.611***	-3.640***	-3.470***	-3.461***	-3.255***	-2.508***	-2.638***	-2.481***	-2.865***
	(0.709)	(0.699)	(0.700)	(0.700)	(0.696)	(0.704)	(0.680)	(0.681)	(0.679)	(0.689)
Age/10		-0.288*	-0.315*	-0.359**	-0.362**	-0.313*	-0.161	-0.127	-0.142	-0.113
		(0.155)	(0.162)	(0.164)	(0.164)	(0.167)	(0.162)	(0.160)	(0.160)	(0.159)
Age squared		0.043**	0.043**	0.046**	0.046**	0.039**	0.020	0.014	0.018	0.013
		(0.018)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Gender = 2, Female		-0.099**	-0.049	-0.041	-0.060	-0.061	-0.044	-0.051	-0.040	-0.007
		(0.047)	(0.048)	(0.048)	(0.049)	(0.049)	(0.049)	(0.048)	(0.048)	(0.048)
Education = 2, Upper secondary or post-secondary		0.389***	0.318***	0.310***	0.311***	0.307***	0.220***	0.209***	0.204***	0.186***
		(0.070)	(0.071)	(0.071)	(0.071)	(0.072)	(0.072)	(0.071)	(0.070)	(0.070)
Education = 3, Tertiary		0.600***	0.318***	0.317***	0.306***	0.320***	0.178**	0.158**	0.154*	0.125
		(0.070)	(0.079)	(0.079)	(0.079)	(0.081)	(0.081)	(0.080)	(0.079)	(0.079)
Household size		0.067***	0.062***	0.058***	0.058***	0.065***	0.071***	0.080***	0.076***	0.071***
		(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.019)	(0.020)
Urbanization = 2, A village/small town		-0.296***	-0.302***	-0.295***	-0.289***	-0.273***	-0.285***	-0.289***	-0.301***	-0.288***
		(0.078)	(0.079)	(0.079)	(0.079)	(0.081)	(0.082)	(0.081)	(0.080)	(0.080)
Urbanization = 3, A medium to large town		-0.259***	-0.271***	-0.257***	-0.256***	-0.223**	-0.185**	-0.180**	-0.190**	-0.180**
		(0.087)	(0.088)	(0.087)	(0.088)	(0.090)	(0.090)	(0.089)	(0.088)	(0.088)
Urbanization = 4, A city or city suburb		-0.392***	-0.408***	-0.400***	-0.390***	-0.351***	-0.322***	-0.325***	-0.343***	-0.333***
		(0.085)	(0.085)	(0.085)	(0.085)	(0.088)	(0.087)	(0.086)	(0.085)	(0.086)
Occupation = 1, Skill level < 3			-0.515***	-0.508***	-0.476***	-0.491***	-0.336***	-0.351***	-0.360***	-0.376***
			(0.072)	(0.073)	(0.074)	(0.074)	(0.074)	(0.073)	(0.073)	(0.072)
Occupation = 2, Skill level = 3			-0.253***	-0.242***	-0.215***	-0.229***	-0.147*	-0.160**	-0.167**	-0.190**
			(0.079)	(0.080)	(0.080)	(0.081)	(0.080)	(0.079)	(0.079)	(0.079)
Occupation = 3, Skill level = 3 & 4			0.157*	0.137	0.182*	0.161	0.102	0.104	0.090	0.074
			(0.094)	(0.094)	(0.096)	(0.099)	(0.099)	(0.099)	(0.098)	(0.097)
Contract type = 1, Permanent contract				0.368***	0.380***	0.403***	0.342***	0.333***	0.324***	0.327***
				(0.101)	(0.101)	(0.102)	(0.101)	(0.100)	(0.099)	(0.099)
Contract type = 3, No written contract				0.516***	0.551***	0.515***	0.352**	0.342**	0.318**	0.325**
				(0.158)	(0.159)	(0.161)	(0.163)	(0.161)	(0.161)	(0.160)
Contract type = 4, Other/missing				0.536***	0.575***	0.582***	0.572***	0.589***	0.558***	0.535***
				(0.126)	(0.128)	(0.133)	(0.130)	(0.129)	(0.128)	(0.127)
Sector = 2, Private sector					-0.172***	-0.179***	-0.167***	-0.141***	-0.151***	-0.149***
					(0.054)	(0.055)	(0.054)	(0.054)	(0.054)	(0.054)
Sector = 3, Other/unknown					0.056	0.042	-0.012	0.009	0.038	0.054
					(0.135)	(0.141)	(0.136)	(0.134)	(0.132)	(0.132)
Commute/10 (Winsorised (0.01))						-0.026***	-0.023***	-0.018**	-0.017**	-0.012*
						(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.349***	-0.320***	-0.306***	-0.284***
							(0.025)	(0.025)	(0.025)	(0.025)
Work-family balance = 2, Well								0.756***	0.738***	0.646***
								(0.072)	(0.071)	(0.073)
Chronic illness = 1, Yes									-0.320***	-0.287***
									(0.064)	(0.064)
Tired job										0.129***
										(0.020)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	8,146	8,056	8,019	8,019	8,019	7,720	7,683	7,669	7,650	7,615
R-squared	0.009	0.029	0.040	0.044	0.046	0.047	0.089	0.110	0.114	0.123

For conservative-corporatist countries, work-hour mismatch is statistically significant, and the negative association with under-employment is larger than the association with over-employment, consistent with Hypothesis 1. This pattern holds in all specifications except Model 7, which controls for income sufficiency; this is consistent with the full sample. Regarding control variables, with the exception of age and skill levels 3 and 4, which do not appear to be statistically significant in this subgroup, the signs and statistical significance of the remaining control variables are broadly consistent with the full sample.

*Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.30: Job Satisfaction and Work-Hour Mismatch (Liberal Regime)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.654***	-1.727***	-1.940***	-2.007***	-2.001***	-2.362***	-2.143***	-0.893	-0.902	-0.617
	(0.571)	(0.559)	(0.575)	(0.575)	(0.575)	(0.604)	(0.606)	(0.598)	(0.598)	(0.589)
Under-employment	-3.873***	-3.624***	-3.839***	-4.001***	-3.999***	-3.690***	-2.376*	-2.748**	-2.745**	-2.981**
	(1.186)	(1.219)	(1.187)	(1.205)	(1.209)	(1.308)	(1.298)	(1.299)	(1.300)	(1.313)
Age/10		-0.424*	-0.506**	-0.466*	-0.458*	-0.373	-0.205	-0.184	-0.183	-0.112
		(0.257)	(0.255)	(0.256)	(0.258)	(0.270)	(0.268)	(0.258)	(0.258)	(0.255)
Age squared		0.063**	0.072**	0.067**	0.066**	0.056*	0.036	0.030	0.031	0.020
		(0.029)	(0.029)	(0.029)	(0.029)	(0.031)	(0.031)	(0.030)	(0.030)	(0.029)
Gender = 2, Female		-0.055	-0.037	-0.026	-0.010	-0.032	0.031	-0.023	-0.023	0.022
		(0.091)	(0.092)	(0.092)	(0.095)	(0.097)	(0.097)	(0.096)	(0.096)	(0.097)
Education = 2, Upper secondary or post-secondary		0.204	0.170	0.169	0.167	0.155	0.179	0.159	0.162	0.132
		(0.132)	(0.132)	(0.133)	(0.132)	(0.136)	(0.134)	(0.130)	(0.130)	(0.129)
Education = 3, Tertiary		0.438***	0.249*	0.241*	0.243*	0.237*	0.166	0.156	0.158	0.148
		(0.117)	(0.137)	(0.137)	(0.137)	(0.142)	(0.142)	(0.138)	(0.138)	(0.138)
Household size		0.078**	0.080**	0.078**	0.078**	0.079**	0.081**	0.076**	0.075**	0.072**
		(0.036)	(0.036)	(0.036)	(0.036)	(0.037)	(0.036)	(0.036)	(0.036)	(0.035)
Urbanization = 2, A village/small town		-0.044	-0.108	-0.088	-0.099	-0.073	-0.036	-0.054	-0.046	-0.021
		(0.129)	(0.130)	(0.131)	(0.130)	(0.137)	(0.136)	(0.134)	(0.134)	(0.134)
Urbanization = 3, A medium to large town		-0.250*	-0.296**	-0.276*	-0.282*	-0.278*	-0.222	-0.201	-0.192	-0.156
		(0.147)	(0.148)	(0.148)	(0.148)	(0.153)	(0.152)	(0.150)	(0.151)	(0.151)
Urbanization = 4, A city or city suburb		-0.278**	-0.319**	-0.306**	-0.311**	-0.285*	-0.218	-0.202	-0.198	-0.168
		(0.140)	(0.141)	(0.142)	(0.142)	(0.148)	(0.147)	(0.145)	(0.145)	(0.144)
Occupation = 1, Skill level < 3			-0.331**	-0.342**	-0.369***	-0.450***	-0.316**	-0.292**	-0.295**	-0.298**
			(0.143)	(0.144)	(0.142)	(0.146)	(0.147)	(0.144)	(0.144)	(0.142)
Occupation = 2, Skill level = 3			-0.136	-0.123	-0.135	-0.132	-0.086	-0.105	-0.098	-0.119
			(0.162)	(0.162)	(0.162)	(0.163)	(0.160)	(0.160)	(0.160)	(0.158)
Occupation = 3, Skill level = 3 & 4			0.089	0.102	0.067	-0.003	-0.011	0.002	0.005	0.021
			(0.148)	(0.147)	(0.148)	(0.153)	(0.156)	(0.156)	(0.156)	(0.159)
Contract type = 1, Permanent contract				-0.162	-0.170	-0.149	-0.139	-0.118	-0.118	-0.094
				(0.139)	(0.139)	(0.141)	(0.139)	(0.134)	(0.135)	(0.136)
Contract type = 3, No written contract				-0.078	-0.096	-0.101	-0.049	-0.037	-0.044	-0.025
				(0.186)	(0.187)	(0.197)	(0.191)	(0.185)	(0.185)	(0.185)
Contract type = 4, Other/missing				0.081	0.073	0.054	0.094	0.085	0.086	0.117
				(0.181)	(0.182)	(0.188)	(0.183)	(0.177)	(0.177)	(0.178)
Sector = 2, Private sector					0.111	0.098	0.087	0.130	0.130	0.106
					(0.107)	(0.108)	(0.107)	(0.105)	(0.106)	(0.105)
Sector = 3, Other/unknown					-0.112	-0.208	-0.138	-0.067	-0.065	-0.075
					(0.259)	(0.278)	(0.270)	(0.271)	(0.270)	(0.265)
Commute/10 (Winsorised (0.01))						-0.038***	-0.031**	-0.020	-0.020	-0.017
						(0.013)	(0.013)	(0.012)	(0.012)	(0.012)
Income sufficiency							-0.291***	-0.250***	-0.246***	-0.218***
							(0.043)	(0.042)	(0.043)	(0.043)
Work-family balance = 2, Well								1.097***	1.088***	0.988***
								(0.133)	(0.133)	(0.134)
Chronic illness = 1, Yes									-0.119	-0.061
									(0.107)	(0.107)
Tired job										0.146***
										(0.035)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	2,589	2,550	2,546	2,546	2,546	2,424	2,414	2,411	2,408	2,405
R-squared	0.011	0.028	0.035	0.037	0.037	0.043	0.067	0.109	0.110	0.120

In liberal welfare states, the effect of under-employment is associated with lower job satisfaction. The under-employment coefficient declines more in liberal countries when income sufficiency is included than in other regimes and the full sample, suggesting that perceived income adequacy explains a larger share of the under-employment-job satisfaction association in this group. The over-employment coefficient becomes statistically insignificant once work-family balance is controlled for, which is consistent with the interpretation that the over-employment penalty operates primarily through work-family balance rather than hours per se. In the full specification, among the remaining control variables, only household size, skill level below 3, income sufficiency, work-family balance, and job related fatigue remain statistically significant.

*Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.31: Job Satisfaction and Work-Hour Mismatch (Southern European Regime)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-2.920***	-2.627***	-2.772***	-2.699***	-2.609***	-2.629***	-2.422***	-1.989***	-2.003***	-1.915***
	(0.333)	(0.312)	(0.309)	(0.308)	(0.309)	(0.313)	(0.300)	(0.301)	(0.299)	(0.302)
Under-employment	-3.594**	-3.132*	-3.477**	-3.334**	-3.257**	-3.108**	-2.586**	-2.611**	-2.628**	-2.700**
	(1.594)	(1.599)	(1.439)	(1.424)	(1.399)	(1.405)	(1.152)	(1.234)	(1.236)	(1.261)
Age/10		-0.427**	-0.540***	-0.604***	-0.629***	-0.664***	-0.385**	-0.306*	-0.312*	-0.291*
		(0.166)	(0.162)	(0.162)	(0.162)	(0.165)	(0.163)	(0.161)	(0.161)	(0.160)
Age squared		0.059***	0.070***	0.076***	0.078***	0.083***	0.051***	0.042**	0.043**	0.040**
		(0.020)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Gender = 2, Female		0.027	0.038	0.039	0.030	0.044	0.065	0.075	0.080	0.096*
		(0.055)	(0.054)	(0.053)	(0.053)	(0.054)	(0.052)	(0.052)	(0.052)	(0.053)
Education = 2, Upper secondary or post-secondary		0.390***	0.353***	0.331***	0.315***	0.338***	0.286***	0.282***	0.274***	0.262***
		(0.073)	(0.075)	(0.075)	(0.075)	(0.076)	(0.073)	(0.073)	(0.073)	(0.073)
Education = 3, Tertiary		0.870***	0.602***	0.583***	0.527***	0.560***	0.390***	0.376***	0.366***	0.359***
		(0.076)	(0.089)	(0.089)	(0.090)	(0.091)	(0.088)	(0.088)	(0.088)	(0.088)
Household size		0.009	0.002	0.003	0.001	-0.001	0.022	0.034	0.033	0.036
		(0.033)	(0.032)	(0.032)	(0.031)	(0.031)	(0.029)	(0.029)	(0.029)	(0.029)
Urbanization = 2, A village/small town		-0.223**	-0.228**	-0.226**	-0.227**	-0.248**	-0.122	-0.111	-0.118	-0.111
		(0.111)	(0.111)	(0.111)	(0.111)	(0.113)	(0.115)	(0.115)	(0.113)	(0.113)
Urbanization = 3, A medium to large town		-0.183	-0.192*	-0.190*	-0.192*	-0.225*	-0.135	-0.122	-0.130	-0.126
		(0.114)	(0.114)	(0.114)	(0.114)	(0.116)	(0.119)	(0.118)	(0.117)	(0.116)
Urbanization = 4, A city or city suburb		-0.359***	-0.368***	-0.368***	-0.368***	-0.373***	-0.202	-0.180	-0.188	-0.178
		(0.120)	(0.119)	(0.119)	(0.118)	(0.121)	(0.124)	(0.123)	(0.122)	(0.122)
Occupation = 1, Skill level < 3			-0.528***	-0.523***	-0.449***	-0.458***	-0.314***	-0.315***	-0.321***	-0.324***
			(0.086)	(0.086)	(0.088)	(0.089)	(0.088)	(0.088)	(0.088)	(0.087)
Occupation = 2, Skill level = 3			-0.516***	-0.514***	-0.458***	-0.467***	-0.396***	-0.417***	-0.421***	-0.425***
			(0.107)	(0.107)	(0.107)	(0.109)	(0.107)	(0.107)	(0.107)	(0.107)
Occupation = 3, Skill level = 3 & 4			0.215	0.194	0.284*	0.290*	0.108	0.123	0.118	0.122
			(0.165)	(0.165)	(0.169)	(0.171)	(0.157)	(0.161)	(0.161)	(0.161)
Contract type = 1, Permanent contract				0.377***	0.382***	0.362***	0.240***	0.208**	0.205**	0.209**
				(0.091)	(0.090)	(0.091)	(0.089)	(0.089)	(0.089)	(0.089)
Contract type = 3, No written contract				0.196*	0.251**	0.221*	0.221**	0.189*	0.188*	0.210*
				(0.111)	(0.111)	(0.113)	(0.110)	(0.110)	(0.110)	(0.110)
Contract type = 4, Other/missing				0.259**	0.344***	0.301**	0.200*	0.190*	0.186*	0.185*
				(0.116)	(0.115)	(0.117)	(0.113)	(0.112)	(0.113)	(0.113)
Sector = 2, Private sector					-0.361***	-0.351***	-0.326***	-0.297***	-0.299***	-0.294***
					(0.065)	(0.066)	(0.063)	(0.064)	(0.064)	(0.064)
Sector = 3, Other/unknown					-0.477**	-0.454**	-0.368*	-0.322	-0.329	-0.308
					(0.217)	(0.223)	(0.209)	(0.212)	(0.211)	(0.211)
Commute/10 (Winsorised (0.01))						-0.019**	-0.014	-0.010	-0.010	-0.009
						(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Income sufficiency							-0.450***	-0.428***	-0.425***	-0.416***
							(0.029)	(0.030)	(0.030)	(0.030)
Work-family balance = 2, Well								0.480***	0.478***	0.418***
								(0.070)	(0.070)	(0.070)
Chronic illness = 1, Yes									-0.157	-0.147
									(0.104)	(0.104)
Tired job										0.074***
										(0.021)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	7,535	7,513	7,480	7,480	7,480	7,237	7,178	7,160	7,143	7,128
R-squared	0.035	0.062	0.073	0.077	0.082	0.084	0.143	0.153	0.154	0.156

In southern European regimes, both under-employment and over-employment are negatively associated with job satisfaction and are statistically significant across model specifications. As in the full sample, the association for under-employment is larger in magnitude than that for over-employment, which is consistent with Hypothesis 1, except in the specification that includes income sufficiency as a control. The coefficients for both under-employment and over-employment are larger than in the full sample. The signs and statistical significance of most control variables are broadly similar to the full sample; however, living in a medium to large town, household size, skill levels 3 and 4, commuting, and chronic illness do not appear to be statistically significant in this group.

*Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.32: Job Satisfaction and Work-Hour Mismatch (Southern European Regime-Türkiye excluded)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-2.347***	-2.230***	-2.350***	-2.192***	-2.120***	-2.117***	-1.767***	-1.283***	-1.285***	-1.194***
	(0.306)	(0.299)	(0.300)	(0.302)	(0.302)	(0.303)	(0.283)	(0.290)	(0.291)	(0.293)
Under-employment	-5.931***	-5.697***	-5.698***	-5.321***	-5.271***	-5.299***	-3.980***	-4.154***	-4.186***	-4.350***
	(0.686)	(0.680)	(0.683)	(0.679)	(0.675)	(0.684)	(0.681)	(0.681)	(0.683)	(0.684)
Age/10		-0.519***	-0.627***	-0.724***	-0.755***	-0.757***	-0.496***	-0.429***	-0.432***	-0.412**
		(0.175)	(0.168)	(0.168)	(0.169)	(0.172)	(0.168)	(0.166)	(0.167)	(0.167)
Age squared		0.066***	0.077***	0.087***	0.089***	0.091***	0.060***	0.052***	0.053***	0.050***
		(0.020)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)
Gender = 2, Female		-0.031	-0.010	-0.017	-0.023	-0.015	-0.006	0.008	0.012	0.028
		(0.053)	(0.054)	(0.053)	(0.053)	(0.054)	(0.052)	(0.052)	(0.052)	(0.053)
Education = 2, Upper secondary or post-secondary		0.360***	0.323***	0.295***	0.281***	0.285***	0.233***	0.225***	0.217***	0.207***
		(0.073)	(0.074)	(0.074)	(0.074)	(0.075)	(0.072)	(0.072)	(0.072)	(0.072)
Education = 3, Tertiary		0.836***	0.562***	0.527***	0.488***	0.494***	0.329***	0.310***	0.300***	0.297***
		(0.077)	(0.089)	(0.089)	(0.090)	(0.092)	(0.090)	(0.090)	(0.090)	(0.090)
Household size		0.030	0.024	0.024	0.022	0.022	0.054**	0.062***	0.061***	0.064***
		(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.021)	(0.021)	(0.021)
Urbanization = 2, A village/small town		-0.269***	-0.274***	-0.261**	-0.270***	-0.287***	-0.160	-0.142	-0.144	-0.137
		(0.102)	(0.102)	(0.102)	(0.102)	(0.103)	(0.105)	(0.105)	(0.105)	(0.105)
Urbanization = 3, A medium to large town		-0.142	-0.142	-0.133	-0.142	-0.165	-0.087	-0.078	-0.081	-0.078
		(0.106)	(0.106)	(0.106)	(0.106)	(0.108)	(0.110)	(0.110)	(0.110)	(0.110)
Urbanization = 4, A city or city suburb		-0.428***	-0.433***	-0.432***	-0.436***	-0.434***	-0.222**	-0.199*	-0.205*	-0.203*
		(0.110)	(0.110)	(0.109)	(0.109)	(0.111)	(0.113)	(0.113)	(0.113)	(0.113)
Occupation = 1, Skill level < 3			-0.542***	-0.556***	-0.507***	-0.519***	-0.351***	-0.352***	-0.360***	-0.362***
			(0.082)	(0.083)	(0.084)	(0.085)	(0.084)	(0.084)	(0.083)	(0.084)
Occupation = 2, Skill level = 3			-0.459***	-0.472***	-0.435***	-0.446***	-0.388***	-0.407***	-0.412***	-0.416***
			(0.102)	(0.102)	(0.103)	(0.103)	(0.102)	(0.102)	(0.102)	(0.102)
Occupation = 3, Skill level = 3 & 4			0.123	0.098	0.153	0.142	0.004	0.017	0.012	0.015
			(0.135)	(0.136)	(0.138)	(0.139)	(0.135)	(0.134)	(0.134)	(0.134)
Contract type = 1, Permanent contract				0.415***	0.415***	0.399***	0.286***	0.250***	0.253***	0.251***
				(0.093)	(0.093)	(0.094)	(0.092)	(0.091)	(0.091)	(0.091)
Contract type = 3, No written contract				0.145	0.193	0.179	0.233**	0.192	0.191	0.214*
				(0.117)	(0.117)	(0.120)	(0.118)	(0.117)	(0.117)	(0.117)
Contract type = 4, Other/missing				0.150	0.218*	0.158	0.077	0.065	0.061	0.057
				(0.115)	(0.117)	(0.119)	(0.114)	(0.114)	(0.114)	(0.114)
Sector = 2, Private sector					-0.251***	-0.236***	-0.217***	-0.195***	-0.193***	-0.188***
					(0.065)	(0.065)	(0.063)	(0.063)	(0.063)	(0.063)
Sector = 3, Other/unknown					-0.421**	-0.382**	-0.278	-0.264	-0.266	-0.253
					(0.181)	(0.182)	(0.184)	(0.183)	(0.183)	(0.183)
Commute/10 (Winsorised (0.01))						-0.011	-0.005	-0.001	-0.002	0.000
						(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Income sufficiency							-0.430***	-0.408***	-0.406***	-0.397***
							(0.027)	(0.027)	(0.027)	(0.027)
Work-family balance = 2, Well								0.470***	0.470***	0.415***
								(0.065)	(0.065)	(0.067)
Chronic illness = 1, Yes									-0.106	-0.096
									(0.096)	(0.096)
Tired job										0.066***
										(0.020)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	6,358	6,342	6,315	6,315	6,315	6,150	6,099	6,087	6,074	6,065
R-squared	0.033	0.062	0.073	0.079	0.082	0.083	0.140	0.150	0.151	0.153

In the southern European group excluding Türkiye, both under-employment and over-employment remain statistically significant and consistent with Hypothesis 1. However, excluding Türkiye reduces the estimated coefficients in all specifications, particularly for over-employment, suggesting that including Türkiye may inflate the estimated association between work-hour mismatch and job satisfaction in this group. With respect to the control variables, household size, subjective urbanization, commuting time, and chronic illness become statistically significant when Türkiye is excluded, and their estimates are more comparable to those in the full sample. *Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.33: Job Satisfaction and Work-Hour Mismatch (Central and Eastern Europe)

Dependent Variable: Job Satisfaction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Over-employment	-1.680***	-1.590***	-1.739***	-1.702***	-1.654***	-1.640***	-1.460***	-0.895***	-0.891***	-0.625**
	(0.237)	(0.233)	(0.229)	(0.230)	(0.230)	(0.241)	(0.242)	(0.252)	(0.252)	(0.251)
Under-employment	-1.290**	-1.076*	-1.043*	-0.926	-0.987*	-0.716	0.020	0.051	0.088	-0.145
	(0.607)	(0.584)	(0.584)	(0.576)	(0.580)	(0.572)	(0.548)	(0.564)	(0.570)	(0.574)
Age/10		-0.332**	-0.441***	-0.524***	-0.534***	-0.553***	-0.325**	-0.233	-0.243	-0.190
		(0.149)	(0.147)	(0.148)	(0.148)	(0.152)	(0.151)	(0.150)	(0.151)	(0.150)
Age squared		0.042**	0.052***	0.060***	0.060***	0.063***	0.040**	0.028	0.030*	0.024
		(0.017)	(0.017)	(0.017)	(0.017)	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)
Gender = 2, Female		-0.010	0.032	0.030	0.007	0.007	0.090*	0.088*	0.092*	0.110**
		(0.046)	(0.046)	(0.046)	(0.047)	(0.048)	(0.047)	(0.047)	(0.047)	(0.047)
Education = 2, Upper secondary or post-secondary		0.237***	0.151*	0.134	0.136	0.148*	0.031	0.051	0.049	0.026
		(0.088)	(0.088)	(0.088)	(0.088)	(0.089)	(0.088)	(0.088)	(0.089)	(0.088)
Education = 3, Tertiary		1.026***	0.453***	0.429***	0.402***	0.413***	0.143	0.167*	0.159	0.123
		(0.093)	(0.100)	(0.100)	(0.100)	(0.101)	(0.101)	(0.101)	(0.101)	(0.102)
Household size		0.004	0.010	0.015	0.013	0.010	0.026	0.033*	0.034*	0.040**
		(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Urbanization = 2, A village/small town		-0.145	-0.172*	-0.159	-0.155	-0.151	-0.144	-0.125	-0.134	-0.150
		(0.099)	(0.098)	(0.097)	(0.097)	(0.099)	(0.095)	(0.094)	(0.093)	(0.093)
Urbanization = 3, A medium to large town		-0.128	-0.165*	-0.149	-0.149	-0.148	-0.122	-0.095	-0.105	-0.107
		(0.100)	(0.098)	(0.098)	(0.098)	(0.100)	(0.095)	(0.094)	(0.094)	(0.094)
Urbanization = 4, A city or city suburb		-0.233**	-0.293***	-0.280***	-0.267***	-0.241**	-0.253**	-0.241**	-0.248**	-0.238**
		(0.103)	(0.102)	(0.101)	(0.101)	(0.103)	(0.099)	(0.099)	(0.098)	(0.098)
Occupation = 1, Skill level < 3			-0.897***	-0.883***	-0.819***	-0.809***	-0.678***	-0.649***	-0.653***	-0.666***
			(0.069)	(0.068)	(0.070)	(0.071)	(0.070)	(0.069)	(0.070)	(0.070)
Occupation = 2, Skill level = 3			-0.343***	-0.345***	-0.312***	-0.280***	-0.242***	-0.247***	-0.242***	-0.259***
			(0.084)	(0.084)	(0.084)	(0.085)	(0.084)	(0.084)	(0.085)	(0.085)
Occupation = 3, Skill level = 3 & 4			0.385***	0.370***	0.452***	0.433***	0.281***	0.306***	0.311***	0.301***
			(0.090)	(0.091)	(0.092)	(0.096)	(0.094)	(0.095)	(0.096)	(0.097)
Contract type = 1, Permanent contract				0.420***	0.412***	0.396***	0.322***	0.296***	0.300***	0.281***
				(0.081)	(0.081)	(0.082)	(0.082)	(0.082)	(0.082)	(0.082)
Contract type = 3, No written contract				0.108	0.165	0.162	0.090	0.063	0.060	0.042
				(0.167)	(0.168)	(0.178)	(0.169)	(0.167)	(0.167)	(0.166)
Contract type = 4, Other/missing				0.458***	0.515***	0.494***	0.364***	0.363***	0.370***	0.332***
				(0.111)	(0.111)	(0.115)	(0.112)	(0.112)	(0.113)	(0.112)
Sector = 2, Private sector					-0.279***	-0.278***	-0.312***	-0.273***	-0.273***	-0.256***
					(0.052)	(0.053)	(0.052)	(0.051)	(0.051)	(0.051)
Sector = 3, Other/unknown					-0.358***	-0.359**	-0.354***	-0.327**	-0.340**	-0.319**
					(0.136)	(0.142)	(0.136)	(0.137)	(0.137)	(0.136)
Commute/10 (Winsorised (0.01))						-0.016**	-0.005	0.002	0.002	0.004
						(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Income sufficiency							-0.501***	-0.459***	-0.455***	-0.424***
							(0.022)	(0.022)	(0.022)	(0.022)
Work-family balance = 2, Well								0.638***	0.634***	0.497***
								(0.058)	(0.059)	(0.061)
Chronic illness = 1, Yes									-0.146**	-0.107
									(0.065)	(0.065)
Tired job										0.188***
										(0.019)
EQLS Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	12,513	12,464	12,412	12,412	12,412	11,886	11,764	11,677	11,619	11,583
R-squared	0.007	0.037	0.064	0.068	0.071	0.070	0.130	0.144	0.144	0.155

In central and eastern European countries, over-employment is statistically significant across all model specifications, whereas under-employment is only marginally significant in the first specifications and becomes statistically insignificant in later models. One possible explanation is the relatively low prevalence of under-employment in this group (around 9 percent), which may reduce statistical power. Although this share is similar to social-democratic countries, differences in expectations and reference points may matter: higher expectations in social-democratic contexts may be associated with a clear under-employment penalty, while lower expectations in central and eastern Europe may attenuate it. In addition, family support rather than the state may partially buffer the association between under-employment and job satisfaction in this group. Regarding control variables, the results for occupation, having a permanent contract, public sector employment, income sufficiency, work-family balance, and job related fatigue are broadly comparable to those in the full sample. *Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).*

Table B.34: Job Satisfaction and Perceived Quality of Public Services (Complete Results)

	Türkiye included				Türkiye excluded			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Over-employment	-2.328***	-2.152***	-1.772**	-1.565**	-2.013**	-1.864**	-1.218	-1.045
	(0.710)	(0.647)	(0.796)	(0.726)	(0.741)	(0.684)	(0.727)	(0.670)
Under-employment	-3.632	-4.013	-3.508	-3.643	-1.472	-1.777	-1.251	-1.409
	(2.692)	(2.576)	(2.704)	(2.555)	(2.096)	(1.931)	(2.080)	(1.933)
Quality of public services	0.037***	0.035***	0.026***	0.029***	0.038***	0.035***	0.026***	0.029***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Over-employment#Quality of public services	0.017	0.020	0.022	0.019	0.018	0.016	0.014	0.010
	(0.015)	(0.014)	(0.016)	(0.015)	(0.017)	(0.017)	(0.017)	(0.016)
Under-employment#Quality of public services	0.022	0.037	0.042	0.048	-0.038	-0.030	-0.016	-0.013
	(0.063)	(0.065)	(0.062)	(0.061)	(0.045)	(0.041)	(0.045)	(0.042)
Age/10			-0.190**	-0.157*			-0.216**	-0.163*
			(0.080)	(0.082)			(0.082)	(0.086)
Age squared			0.026***	0.022**			0.028***	0.023**
			(0.009)	(0.009)			(0.009)	(0.010)
Gender = 2, Female			0.068**	0.062**			0.054*	0.058**
			(0.030)	(0.028)			(0.028)	(0.028)
Education = 2, Upper secondary			0.193***	0.144**			0.155**	0.124**
			(0.064)	(0.053)			(0.057)	(0.053)
Education = 3, Tertiary			0.240***	0.182***			0.198***	0.156***
			(0.070)	(0.056)			(0.059)	(0.052)
Household size			0.042***	0.043***			0.050***	0.046***
			(0.014)	(0.010)			(0.013)	(0.010)
Urbanization = 2, A village			-0.194***	-0.171***			-0.203***	-0.181***
			(0.063)	(0.048)			(0.062)	(0.047)
Urbanization = 3, Medium/large town			-0.170***	-0.155***			-0.163***	-0.150***
			(0.053)	(0.041)			(0.051)	(0.041)
Urbanization = 4, City			-0.284***	-0.245***			-0.281***	-0.275***
			(0.051)	(0.054)			(0.051)	(0.045)
Occupation = 1, Skill level < 3			-0.454***	-0.468***			-0.458***	-0.474***
			(0.050)	(0.049)			(0.051)	(0.050)
Occupation = 2, Skill level = 3			-0.221***	-0.213***			-0.216***	-0.206***
			(0.043)	(0.042)			(0.044)	(0.042)
Occupation = 3, Skill level = 3 & 4			0.188***	0.187***			0.179**	0.181***
			(0.064)	(0.059)			(0.067)	(0.063)
Contract type = 1, Permanent			0.232***	0.204***			0.242***	0.210***
			(0.059)	(0.059)			(0.061)	(0.061)
Contract type = 3, No written			0.144	0.105			0.177	0.058
			(0.123)	(0.102)			(0.138)	(0.104)
Contract type = 4, Other/missing			0.327***	0.328***			0.317***	0.312***
			(0.081)	(0.084)			(0.085)	(0.086)
Sector = 2, Private sector			-0.169***	-0.177***			-0.152***	-0.159***
			(0.045)	(0.045)			(0.042)	(0.042)
Sector = 3, Other/unknown			-0.194**	-0.180**			-0.179**	-0.166*
			(0.084)	(0.083)			(0.084)	(0.085)
Commute/10 (Winsorised (0.01))			-0.007*	-0.007*			-0.007	-0.006
			(0.004)	(0.004)			(0.004)	(0.004)
Income sufficiency			-0.276***	-0.303***			-0.273***	-0.300***
			(0.023)	(0.025)			(0.024)	(0.026)
Work-family balance = 2, Well			0.517***	0.507***			0.522***	0.514***
			(0.050)	(0.048)			(0.052)	(0.050)
Chronic illness = 1, Yes			-0.148***	-0.133**			-0.148***	-0.133**
			(0.049)	(0.048)			(0.050)	(0.050)
Tired job			0.131***	0.126***			0.129***	0.128***
			(0.014)	(0.013)			(0.014)	(0.013)
Wave	✓	✓	✓	✓	✓	✓	✓	✓
Country ,		✓		✓		✓		✓
Constant	✓	✓	✓	✓	✓	✓	✓	✓
Observations	33,883	33,883	31,686	31,686	32,706	32,706	30,623	30,623

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.35: Job Satisfaction and Perceived Quality of Public Services (Non-imputed data)

	Model 1	Model 2	Model 3	Model 4	Model 5
Over-employment	-2.527**	-2.343***	-1.844**	-1.732**	-0.730**
	(0.943)	(0.827)	(0.865)	(0.768)	(0.272)
Under-employment	-3.746	-4.466	-3.386	-3.795	-1.265*
	(4.302)	(4.003)	(3.854)	(3.591)	(0.658)
Quality of public services	0.044***	0.041***	0.030***	0.033***	0.035***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Over-employment x Quality of public services	0.023	0.028	0.025	0.025	–
	(0.019)	(0.018)	(0.017)	(0.015)	
Under-employment x Quality of public services	0.034	0.061	0.046	0.060	–
	(0.093)	(0.092)	(0.083)	(0.079)	
Controls			✓	✓	✓
Wave	✓	✓	✓	✓	✓
Country		✓		✓	✓
Constant	✓	✓	✓	✓	✓
Observations	19,086	19,086	18,003	18,003	18,003
R-squared	0.083	0.106	0.188	0.202	0.201

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.36: AMEs of Work-Hour Mismatch Across Public Service Quality Levels (Non-imputed data)

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Quality level	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**
24 (10th)	-1.986***	-2.931	-1.682***	-2.999	-1.251**	-2.274	-1.124**	-2.364
	(0.599)	(2.104)	(0.447)	(1.872)	(0.520)	(1.909)	(0.438)	(1.742)
33 (25th)	-1.783***	-2.626*	-1.433***	-2.449**	-1.029**	-1.857	-0.895**	-1.828
	(0.517)	(1.318)	(0.336)	(1.159)	(0.417)	(1.217)	(0.338)	(1.100)
42 (50th)	-1.580***	-2.320***	-1.185***	-1.898**	-0.806**	-1.440**	-0.667**	-1.291*
	(0.484)	(0.677)	(0.279)	(0.749)	(0.350)	(0.655)	(0.275)	(0.640)
50 (75th)	-1.400***	-2.049***	-0.965***	-1.409	-0.608*	-1.070	-0.465*	-0.814
	(0.504)	(0.713)	(0.299)	(1.013)	(0.339)	(0.654)	(0.272)	(0.746)
55 (90th)	-1.287**	-1.879*	-0.827**	-1.104	-0.485	-0.838	-0.338	-0.516
	(0.538)	(1.052)	(0.343)	(1.368)	(0.358)	(0.935)	(0.297)	(1.028)

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).

Table B.37: AMEs of Work-Hour Mismatch Across Public Service Quality Levels (Türkiye excluded)

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Quality level	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**	**Over: AME**	**Under: AME**
24 (10th)	-1.583***	-2.382**	-1.468***	-2.507**	-0.877**	-1.644	-0.810**	-1.716*
	(0.346)	(1.089)	(0.307)	(0.999)	(0.332)	(1.054)	(0.303)	(0.980)
33 (25th)	-1.422***	-2.724***	-1.320***	-2.781***	-0.749***	-1.792**	-0.722***	-1.832**
	(0.219)	(0.759)	(0.189)	(0.695)	(0.195)	(0.720)	(0.180)	(0.675)
42 (50th)	-1.261***	-3.065***	-1.171***	-3.054***	-0.621***	-1.939***	-0.634***	-1.947***
	(0.160)	(0.538)	(0.145)	(0.493)	(0.111)	(0.510)	(0.116)	(0.493)
50 (75th)	-1.117***	-3.368***	-1.039***	-3.297***	-0.507***	-2.070***	-0.556***	-2.049***
	(0.216)	(0.553)	(0.212)	(0.513)	(0.167)	(0.557)	(0.176)	(0.548)
55 (90th)	-1.028***	-3.558***	-0.957***	-3.450***	-0.436*	-2.152***	-0.507**	-2.114***
	(0.282)	(0.668)	(0.279)	(0.621)	(0.238)	(0.690)	(0.241)	(0.673)

Standard errors (in parentheses) are clustered at the country level. (*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$).