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ESRI ECONOMIC & SOCIAL RESEARCH INSTITUTE

JOB QUALITY OF MINIMUM WAGE WORKERS IN IRELAND

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ABBREVIATIONS

DSP	Department of Social Protection
ESJS	European Skills and Jobs Survey
EWCS	European Working Conditions Survey
ILO	International Labour Organization
LFS	Labour Force Survey
MW	Minimum wage
NMW	National Minimum Wage
OECD	Organisation for Economic Co-operation and Development

EXECUTIVE SUMMARY

- The provision of high-quality jobs is an important component of the policy strategy of organisations such as the ILO, the OECD and the European Union. Job quality can have important implications for employee well-being, as well as being an important component of a well-functioning and productive economy.

- When considering job quality, the level of pay is often the primary consideration. However, job quality is a multidimensional concept that goes beyond pay, to include factors such as job security, flexibility, union membership, contract type, provision of training, physical risk, and general working conditions.

- Capturing the multidimensional aspects of job quality is difficult as many surveys do not capture the full range of job quality indicators. In this research, we combine three different datasets to examine the job quality of minimum wage workers in Ireland relative to higher paid workers across a range of dimensions. The datasets we use include the 2022 Irish Labour Force Survey, the 2015 European Working Conditions Survey, and the 2014 European Skills and Jobs Survey. As we are focused on minimum wage employment, which by definition are low-paying jobs, we focus on aspects of job quality beyond remuneration.

- We find that minimum wage employees are approximately 10 percentage points more likely than higher paid employees to fear job loss and to hold temporary employment contracts, and approximately 5 percentage points more likely than higher paid employees to want to work more hours than they currently do. Our results also show that minimum wage employees are approximately 20 percentage points less likely to be members of a trade union. Minimum wage employees also appear to have less flexibility in their jobs, as we find that they are 20 percentage points less likely to be able to work from home.

- Compared to higher paid workers, minimum wage employees are also found to work longer shifts (more than ten hours) that coincide with more unsocial times (Saturdays and Sundays). They are also 13 percentage points more likely to work in jobs in which their skills are underutilised. This is reflected in the fact that minimum wage employees also report lower job complexity and lower levels of computer usage compared to higher paid employees, and are less likely to receive training in their jobs.

- However, while most job quality indicators show that minimum wage jobs tend to be lower quality, there are three exceptions. Minimum wage employees are more likely to be in jobs where they have a choice in the colleagues they work

with and in the hours that they work. In addition, minimum wage employees are more likely to be in jobs where the boss is successful in getting people to work together.

- In addition to facing low levels of pay, our research indicates that, overall, minimum wage workers may also face less favourable job quality conditions as measured by a variety of factors. This highlights the importance of providing not only a minimum level of pay, but also ensuring a minimum level of acceptable terms and conditions of employment.

- For many low-paid workers, minimum wage employment may be a relatively short-term stepping-stone to higher pay. However, for others it may be a longer-term arrangement. The combination of low pay and other potentially unfavourable job quality measures is of particular concern for individuals that may be long-term minimum wage employees.

SECTION 1

Introduction

In recent years, the concept of quality of work has become a major subject of discussion among researchers and policymakers (Felstead et al., 2019). At a European level, following the introduction of the EU Employment Strategy in 1997 through the Treaty of Amsterdam, and the launch of the Lisbon Growth and Jobs Strategy in 2000, the common focus for employment policy shifted from not only creating jobs but to creating 'better jobs' (European Commission, 2004). In addition, international organisations, such as the OECD, as well as individual national governments have expressed growing interest in this issue.

When talking about 'good jobs', it is first necessary to define what constitutes a good job, by identifying measures of job quality. This can be a complicated task as job quality is a multidimensional concept that can incorporate many different characteristics. The wage paid to the employee can be considered the first core component of job quality: monetary rewards provide a means to make a living and support a person's lifestyle (Eurofound 2012; 2017). However, many other measures of job quality exist, including, for example, work-life balance and career development opportunities.

The aim of this research is to analyse the job quality of minimum wage employees in Ireland. As such, we are focusing on a group of workers who have a relatively low, fixed hourly wage. Therefore, in the context of this research, as we are taking the hourly wage as fixed, we focus more on other dimensions of job quality. Three different datasets will be used: the Irish Labour Force Survey (LFS); the European Working Conditions Survey (EWCS); and the European Skills and Jobs Survey (ESJS). We will extract a range of different job quality measures from these datasets to assess the quality of minimum wage jobs in Ireland relative to higher paid jobs.

1.1 PREVIOUS LITERATURE ON JOB QUALITY – INCOME FOCUS

Wages for employees and revenues for self-employed people are considered some of the most important conditions of work and a key component of job quality (Eurofound and International Labour Organization, 2019; Howell and Kalleberg, 2019). Accordingly, higher wages have been linked to greater well-being and job satisfaction (see, e.g., Cazes et al., 2015; Howell and Kalleberg, 2019; Warhurst et al., 2017; Redmond and McGuinness, 2019; Kosteas, 2010; Grund and Sliwka, 2001). Beyond the absolute wage level, previous research shows that workers also value their relative wage compared to others in the organisation (Brown et al., 2011).

However, high wages alone cannot be regarded as a measure of good job quality if it was a result of long and potentially involuntary working hours (Chen and Mehdi, 2019). For example, it is possible for an individual on a high hourly wage working fewer hours to receive lower earnings than someone on a low hourly wage working more hours (McGinnity et al., 2021). Using measures of weekly or monthly wages makes it difficult to disentangle these two components. Hourly wages, on the other hand, by helping to distinguish job quantity from job quality, are often the preferred measure (see, e.g., Cazes et al., 2015; Chen and Mehdi, 2019; Howell and Kalleberg, 2019; McGinnity et al., 2021).

Osterman (2019) discusses strategies for improving the job quality of minimum wage workers, with a specific focus on healthcare workers in America. He notes that increasing the minimum wage may be the most direct strategy.[1] However, there are limits to this approach, as minimum wage increases in the United States tend to be quite modest, often falling short of the substantial increases that may be required to allow a reasonable standard of living. Moreover, in response to minimum wage increases, employers may respond by reducing hours.[2] Osterman (2019) notes that unionisation is another strategy for improving job quality, as unions can negotiate for improved wages, as well as better working conditions.

1.2 OTHER MEASURES OF JOB QUALITY

Job quality is not only determined by the level of wages but also by other work-related characteristics. There is no clear consensus on what constitutes a 'good job', but there is a general agreement in the academic literature that measuring job quality should go beyond pay (McGinnity et al., 2021). An employee's lived experiences at work are important complements to objective measures of job quality because what people value in paid work can vary across the population, as some people may be satisfied in a job that others dislike. Therefore, job quality measures should reflect what workers find meaningful to themselves (Burchell et al., 2014). These measures are often called 'intrinsic' job quality factors and may include aspects of a job such as autonomy and flexibility (Russell et al., 2014). Examples of non-wage attributes that have been used in other studies to capture important indicators of job quality include: job security; occupational safety; opportunities for career progression; good work-life balance; skills development and training; good employment relationships; autonomy over tasks and activities; healthcare provision; experiencing the job as meaningful and interesting; union membership; the social environment; working excessive hours; involuntary part-

1 In comparing 12 EU countries, along with the UK, from 2005-2015, Arranz et al. (2019) find that job quality is negatively correlated with systems of minimum wage setting in which governments have more power or influence in setting the minimum wage. However, while this shows a negative correlation, it cannot be taken as causal evidence of the link between minimum wage setting institutions and job quality.

2 Recent international evidence is consistent with an hours reduction in response to minimum wage increases. See, e.g., Redmond and McGuinness (2022) and McGuinness and Redmond (2019) for Ireland; Stewart and Swaffield (2008) for the UK; Caliendo et al. (2019) for Germany; and Neumark et al. (2004) for the US.

time or temporary work (Howell and Kalleberg, 2019; Piasna, 2018; UNECE, 2015; Eurofound, 2017; 2022; OECD, 2016; Eurofound and International Labour Organization, 2019).[3]

While there are many potential indicators of job quality, the type of variables that can be empirically examined depends on data availability. In this paper, we draw on three different datasets to capture a range of indicators of job quality. These include job security, job satisfaction, membership of a trade union, skills mismatch, job flexibility (as measured by the capacity to work from home) and training provision, among others.

The rest of the paper proceeds as follows. In Section 2 we provide some background on minimum wage policy in Ireland, including some of the recent empirical work in this area. Section 3 describes the three datasets used in the analysis and presents some relevant descriptive statistics, as well as discussing the empirical methodology. The results are presented in Section 4, and Section 5 concludes.

[3] Good conditions at work not only improve individual well-being but can also improve employee's motivation and productivity levels (Bosch and Weinkopf, 2017).

SECTION 2

Minimum wage policy in Ireland

In 2000, a minimum wage was introduced for the first time in Ireland at a rate of €5.58 per hour. Following this, there were regular (almost yearly) increases up until 2007, at which point the minimum wage stood at €8.65 per hour. Following the onset of the Global Financial Crisis and the prolonged period of economic downturn, the minimum wage rate did not increase for almost nine years, so that in 2015 the minimum wage was the same as it had been in 2007 (€8.65 per hour). During this period there was, however, a temporary reduction in the minimum wage; in January 2011 it decreased from €8.65 per hour to €7.65 per hour. However, against the backdrop of political pressure to reverse this decision, the minimum wage was then restored to its initial level of €8.65 in July 2011.[4] In comparison, average total hourly earnings in Ireland increased from €21.62 in 2008 to €21.93 in 2011, and up to €22.06 by 2016.[5]

In 2015, against the backdrop of economic recovery, the Low Pay Commission was established. Their role is to make yearly recommendations to the Irish government on a minimum wage that is 'fair and sustainable' and will 'assist as many low-paid workers as possible without harming overall employment and competitiveness'. Following recommendations from the Low Pay Commission, the minimum wage was increased in January 2016, from €8.65 to €9.15 per hour. Based on subsequent recommendations from the Low Pay Commission, further increases to the minimum wage were implemented in 2017 (to €9.25 per hour), 2018 (to €9.55 per hour), 2019 (to €9.80 per hour), 2020 (to €10.10 per hour), 2021 (to €10.20 per hour), 2022 (to €10.50 per hour) and 2023 (to €11.30 per hour). Moreover, the Government made a commitment to introduce a national living wage by 2026: gradual increases will be made to the minimum wage until it will reach 60 per cent of hourly median earnings. In 2023, it is estimated that a living wage of 60 per cent would equate to €13.10 per hour.[6]

A useful indicator for evaluating minimum wages is how these compare with the median wage (the 'bite' of the minimum wage, or the Kaitz Index). Low Pay Commission (2022) reports the Irish National Minimum Wage as a percentage of the median wage, which is calculated using the Earnings, Hours, and Employment Costs Survey (EHECS). This is shown in Figure 2.1. The minimum wage fluctuates

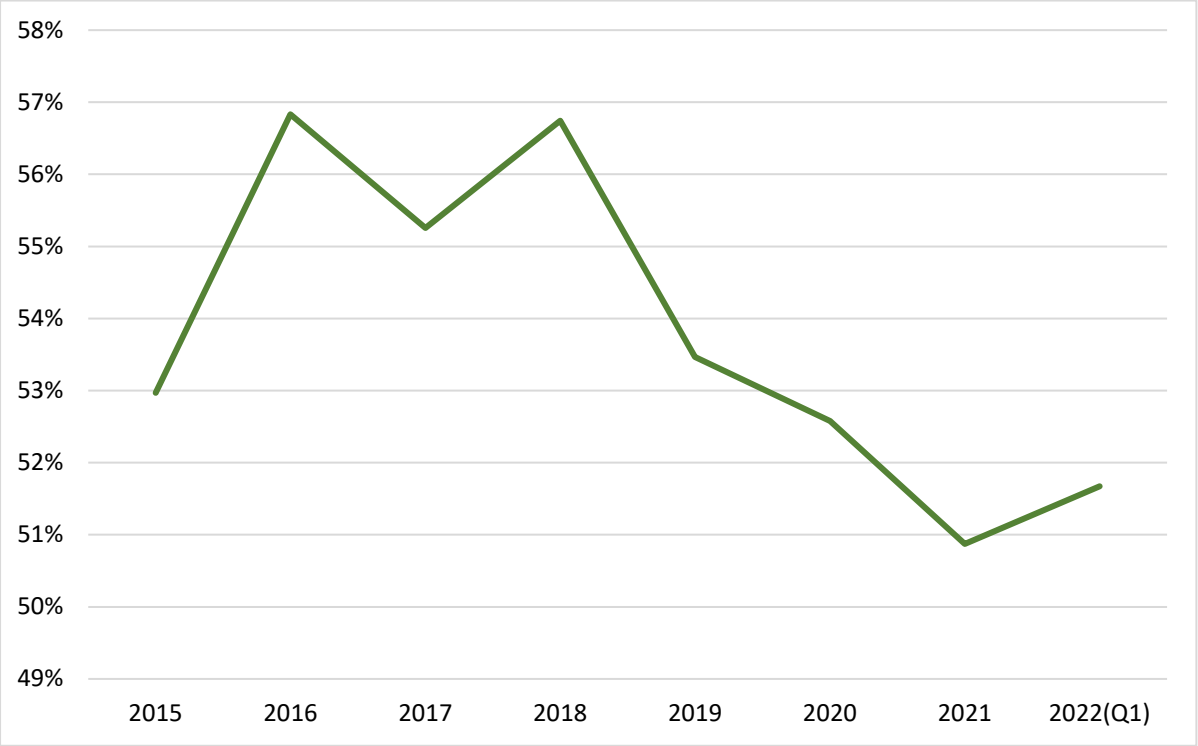
4 For the history of the minimum wage in Ireland please see: https://www.gov.ie/en/publication/9463f6-historic-nmw-rates/.

5 Average hourly wages obtained from the CSO and relates to 'Average Hourly Total Earnings' from EHECS data. Please see: https://data.cso.ie/.

6 Leo Varadkar announced the introduction of a national living wage in November 2022. For more information: Tánaiste announces introduction of national living wage - DETE (enterprise.gov.ie). See also Doris et al. (2022).

between 50 and 60 per cent of median wage, with Low Pay Commission (2022) estimating that it was just below 52 per cent in 2022.

FIGURE 2.1 THE IRISH NATIONAL MINIMUM WAGE AS A PERCENTAGE OF THE MEDIAN WAGE



Source: Low Pay Commission Annual Report 2022.

Internationally, minimum wages are a common feature of advanced Western democracies. Currently, 21 of the 27 EU Member States, along with the United Kingdom and the United States, have a statutory minimum wage. A recent comparative study by Redmond et al. (2021) benchmarked Irish minimum wage policy within an EU context.[7] In nominal terms, Ireland has the second highest minimum wage in the EU. When measured in purchasing power standard terms, the Irish minimum wage is the sixth highest in the EU, behind Luxembourg, Germany, the Netherlands, Belgium and France. Using data for 2017 and 2018, Redmond et al. (2021) estimate that 9.6 per cent of employees in Ireland were paid the minimum wage. This compared to an average incidence of minimum wage employment across all countries studied of 10.5 per cent.

In terms of sectoral representation, approximately 50 per cent of minimum wage employees work in retail, accommodation, and food sectors (Redmond, 2020). In comparison, only 19 per cent of higher paid employees work in these occupations (McGuinness et al., 2019). These sectors are often associated with employment

[7] Redmond et al. (2021) analysed 14 countries: Ireland, Portugal, Germany, Poland, Hungary, Spain, United Kingdom, Luxembourg, Estonia, France, Latvia, Greece, Netherlands and Belgium.

instability (Byrne et al., 2020) and precarious work (ICTU, 2017; Nugent et al., 2019). This is consistent with work by Redmond et al. (2018), who find that minimum wage employees are more likely than higher paid employees to become unemployed or inactive. Minimum wage employees are also more likely to be at risk of poverty than non-minimum wage employees (Maître et al., 2017). However, despite this, the vast majority of those earning a minimum wage in Ireland are not at risk of poverty (Redmond et al., 2021; Maître et al., 2017). As such the minimum wage may be a blunt tool for tackling widespread poverty reduction (Low Pay Commission, 2016).

In recent years, several studies have examined the impacts of minimum wage increases in Ireland. In terms of employment effects, the evidence indicates that minimum wage increases are associated with a reduction in hours worked among minimum wage employees, but do not lead to significant job losses (Redmond and McGuinness, 2022; Redmond, 2020; McGuinness and Redmond, 2019). Redmond et al. (2021) examine the impact of a recent Irish minimum wage increase on the wage distribution and find that it led to a reduction in several measures of wage inequality.

SECTION 3

Data and methods

In order to assess the quality of minimum wage jobs in Ireland we use data from three different sources that contain important and relevant information on job quality, income and sociodemographic characteristics. The three datasets are the 2022 Irish Labour Force Survey (LFS), the 2014 European Skills and Jobs Survey (ESJS), and the 2015 European Working Conditions Survey (EWCS). Our analysis focuses on two groups of employees – those earning the minimum wage and those earning above the minimum wage.[8] Each dataset is described below.

The Irish Labour Force Survey (LFS) is a large-scale nationally representative survey of Irish households, administered by the Irish Central Statistics Office. We use 2022 LFS data, pooling all four quarters. The data include information on a variety of individual and job characteristics, as well as the individual's labour market status.[9] Using these data, we construct a number of job quality indicators that include the employee's contract type (permanent/temporary), a measure of job flexibility (ability to work from home), membership of a trade union, an indicator of involuntary part-time work (the employee is working part-time because they cannot find full-time work), and a variable capturing whether the employee wants to work additional hours.

The second dataset is the 2014 European Skills and Jobs Survey (ESJS) administered by CEDEFOP, which contains information on skill requirements and mismatches, as well as work experiences and personal characteristics, across all EU Member States CEDEFOP (2014).[10] The survey's respondents are adult employees, aged 24 to 65. We focus on data for Ireland and job quality information related to reasons for choosing current employment, skills mismatch, job satisfaction and job security.

The third dataset is the 2015 European Working Conditions Survey (EWCS) available from Eurofound, which provides information on working conditions in Europe.[11] We focus on the Irish component of the EWCS data which contains information on job quality measures, such as physical risk, work time quality, social environment, skill development, and work prospects.

8 The terms employee and worker are sometimes used interchangeably in the text. At all times, we are referring to employees, as opposed to self-employed workers.

9 See https://www.cso.ie/en/methods/labourmarket/labourforcesurvey/aboutthelabourforcesurvey/.

10 See https://www.cedefop.europa.eu/en/projects/european-skills-and-jobs-survey-esjs#group-details.

11 See https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015.

Each of the three datasets provides information on individual characteristics that we include in our analysis, such as gender, educational attainment and age. As explained in the following section (Section 3.1), each dataset also contains information on income from which minimum wage and non-minimum wage workers can be identified.

3.1 IDENTIFYING MINIMUM WAGE WORKERS AND THEIR CHARACTERISTICS

In this subsection we discuss our method of identifying minimum wage workers in each of the three datasets used. We will also provide summary statistics on the incidence of minimum wage employment and statistics on job quality measures of minimum wage employees.

3.1.1 Irish Labour Force Survey

The Irish LFS is unique, in that it is the only labour force survey that specifically asks respondents whether they are minimum wage employees: the question states the National Minimum Wage per hour and asks employees if their gross hourly earnings are, (1) above the National Minimum Wage rate, (2) equal to the National Minimum Wage rate, or (3) below the National Minimum Wage rate. If a respondent indicates they are earning below the National Minimum Wage rate, a follow up question asks them why.[12] We create a binary variable, which equals 1 if the employee indicated that their hourly wage was equal to, or less than, the National Minimum Wage, and 0 if they indicated that they were earning above the minimum wage rate. Based on this approach, we estimate that 6.8 per cent of employees in the sample in 2022 are minimum wage workers. Note that the LFS focuses on employees aged 15 to 74.

In addition to using the minimum wage question, as a robustness test, we employ an alternative method to identify minimum wage employees based on calculating the hourly pay rate using administrative earnings data. Specifically, the LFS dataset contains administrative data on a person's quarterly earnings, along with the number of weeks worked within the quarter. This can be combined with their self-reported usual hours worked to calculate their hourly rate of pay.[13] Using the alternative method, a person is defined as a minimum wage employee if their hourly wage is less than or equal to the prevailing minimum wage rate (€10.50 per

[12] There are sub-minimum wage rates that are age based and apply to employees aged under 20 years of age. Employees that are working with close family members and certain types of apprentices are exempt from the statutory minimum wage requirement and may be paid below the full minimum wage rate. Finally, some individuals indicate they are paid the sub-minimum rate for 'other' reasons. This may capture employees working for non-compliant employers (McGuinness et al., 2020).

[13] Usual hours worked are based on weekly hours. The exact calculation is quarterly earnings / (weeks worked x usual hours worked per week). We restrict our analysis to employees working 70 hours or less per week, thereby excluding the top percentile of hours worked.

hour in 2022). Using this measure, we find that 8.2 per cent of employees are minimum wage workers.

Using the Labour Force Survey, we create several indicators of job quality. This includes an indicator for involuntary part-time work, which equals 1 if the employee responds that they are working part-time because they cannot find full time work, and 0 if the employee is on voluntary part-time work. Related to this, we also include a variable to capture whether an employee wants to work more hours (equals 1 if they indicate that they want to work more hours and 0 otherwise). We include a measure of job flexibility which relates to an employee's capacity to work from home. This is equal to 1 if the employee indicates that they sometimes or usually work from home, and 0 if they never work from home. Finally, we include binary variables to capture whether the employee is a member of a trade union (equals 1 if union member and 0 otherwise) and whether they are on a temporary contract (equals 1 for temporary contract and 0 for permanent).

In Table 3.1 we present descriptive statistics of job quality measures for minimum wage and non-minimum wage workers. We also report p-values to show whether the differences in characteristics of minimum wage and non-minimum wage workers are statistically significant. On average, 5.4 per cent of minimum wage employees work on an involuntary part-time basis compared to just 1.3 per cent of non-minimum wage workers. A high share of non-minimum-wage workers – 35 per cent – reported being able to work from home, compared to just 5.9 per cent of minimum wage workers. Just 2.7 per cent of minimum wage workers are members of a union, compared to 27 per cent of non-minimum wage workers. Regarding the permanency of the job contract, 30 per cent of minimum wage workers have a temporary contract, compared to 5.9 per cent of non-minimum wage workers. Lastly, 29 per cent of minimum wage workers report they would prefer to work more hours than they actually do, compared to 14 per cent for non-minimum wage workers.

TABLE 3.1 DESCRIPTIVE STATISTICS OF JOB QUALITY CHARACTERISTICS IN LFS

Job quality measures	Minimum wage workers (%)	Non-minimum wage workers (%)	P-value
Involuntary part-time	5.4	1.3	0.00***
Working from home	5.9	35	0.00***
Union membership	2.7	27	0.00***
Temporary contract	30	5.9	0.00***
Want to work more hours	29	14	0.00***
N. of observations	2,985	43,823	

Source: Pooled quarterly Irish Labour Force Survey (Q1-Q4) data from 2022.
Note: LFS sample weights are applied. P-values relate to the difference in mean characteristics between minimum wage and non-minimum wage workers. *** p<0.01, **p<0.05, *p<0.10.

3.1.2 European Skills and Jobs Survey

The ESJS contains gross monthly earnings and usual hours worked in a month. To identify a minimum wage employee in ESJS we first estimate hourly wages for all survey respondents. We calculate a person's hourly wage by dividing their gross monthly earnings by usual monthly hours worked. A minimum wage worker is identified as having an hourly wage less than or equal to 105 per cent of the minimum hourly wage in 2014, which was €8.65 per hour, or €9.08 per hour after applying the 105 per cent adjustment. Therefore, individuals with an hourly wage greater than €9.08 were labelled as non-minimum wage workers.[14] Using the ESJS data, we estimate that 7.2 per cent of respondents are minimum wage employees. Note that the ESJS focuses only on employees aged 24 to 65, and therefore the age profile is not directly comparable to the LFS and the EWCS.

We create several measures of job quality using the ESJS data. Respondents are asked how likely they think it is that 'I will lose my job in the next year'. Answers are on a scale from 0 to 10, where 0 means very unlikely and 10 means very likely. From this, we create a binary indicator of perceived job insecurity, which equals 1 if the respondent reports a value of six or above and 0 otherwise. Respondents to the ESJS survey are also asked how satisfied they are with their job. Again, responses are reported on a 10-point scale, and from this we create a binary variable (equals one for responses of six or above) to create an indicator of job satisfaction.

The ESJS survey also contains a question that captures the relative importance of various factors involved in a person's decision to accept their current job. Specifically, respondents are asked, 'Before you started working for your current employer, how important, if at all, were the following factors in your decision to accept the job?'. They rank the following factors on a scale of zero (not important) to ten (essential): job security; career progression opportunities; pay and other benefits; proximity to home; interest in the work itself; work-life balance. We create binary variables for each of these factors, letting them equal to 1 for scores of six and above and 0 otherwise. In doing so, we can examine whether differences exist between minimum wage and non-minimum wage workers in the factors involved in their decision to accept their job (for more information, see Appendix A).

It is important to point out that the measures relating to job satisfaction and job preferences (the factors involved in person's decision to accept a job) are all

[14] As we are estimating the hourly wage rate based on usual hours worked and self-reported earnings, we introduce the 105 per cent cut-off to incorporate a degree flexibility, whereby somebody earning on, or close to, the minimum wage is categorised as a minimum wage employee (similar to Redmond and McGuinness, 2022).

subjective factors. As such, they may reflect the personal opinions and preferences of the individual, as opposed to being objective measures of job quality. Nonetheless, comparing job satisfaction and job preferences across minimum wage and non-minimum wage workers should provide important information in how their jobs differ, including the perceived value or quality of that job. For example, obtaining value and meaning from a job is often considered an important component of job quality. Comparing minimum wage and non-minimum wage workers in relation to 'interest in the work itself' may therefore be informative for our study. Subjective factors of job quality provide additional information on how people in general experience work, which cannot be deduced from objective job quality indicators.

The ESJS data also contain information on skills mismatch. Respondents are asked, 'overall, how would you best describe your skills in relation to what is required to do your job?'. They choose from one of the following three answers: (1) my skills are higher than required by my job; (2) my skills are matched to what is required by my job; (3) some of my skills are lower than what is required by my job and need to be further developed. Those responding with (1) are categorised as overskilled, those responding (2) are matched and those responding (3) are considered underskilled. These are useful indicators to examine as skills mismatch has been found to be associated with lower job and life satisfaction as well as lower wages (see McGuinness et al., 2018, for a review of the literature on skills mismatch).

In Table 3.2 we show averages of the various job quality measures from the ESJS data for minimum wage and non-minimum wage employees. With regard to skills mismatch, just 36 per cent of minimum wage workers are in jobs where their skills are matched to the requirements of the job, compared to 49 per cent for higher paid workers. This predominantly relates to a larger share of overskilling among minimum wage workers (55 per cent, compared to just 43 per cent for higher paid workers). While job satisfaction is lower among minimum wage workers (66 per cent) compared to higher paid workers (72 per cent), this difference is not statistically significant. Minimum wage employees also appear to have less job security, as 28 per cent fear job loss in the next year, compared to just 22 per cent for higher paid workers. However, again, this is not statistically significant at conventional levels (p-value of 0.19). When looking at the factors influencing a person's decision to accept the current job, minimum wage workers place less importance on job security, career progression and pay.

TABLE 3.2 DESCRIPTIVE STATISTICS OF JOB QUALITY CHARACTERISTICS IN ESJS

Job quality measures	Minimum wage workers (%)	Non-minimum wage workers (%)	P-value
Skill mismatch			
Overskilled	55	43	0.03**
Matched	36	49	0.03**
Underskilled	8	8	0.85
Job satisfaction			
Satisfied	66	72	0.31
Job loss			
Likely	28	22	0.19
Factors to accept current job			
Job security	74	82	0.06*
Career progression	62	72	0.06*
Pay & benefits	55	68	0.01***
Close to home	61	65	0.42
Interest in the nature of work	71	77	0.16
Good work-life balance	73	76	0.35
N. of observations	71	921	

Source: 2014 European Skills and Jobs Survey.
Note: Sample weights are applied. P-values relate to the difference in mean characteristics between minimum wage and non-minimum wage workers. *** p<0.01, **p<0.05, *p<0.10.

3.1.3 European Working Conditions Survey

The EWCS contains net monthly earnings and usual hours worked in a month. From this we estimate the hourly net wage for each survey participant by dividing their monthly earnings by monthly hours worked. Note that a limitation relates to the fact that we do not have gross monthly earnings. Therefore, when calculating hourly wage, we are using an after-tax hourly wage, meaning that we are likely to be understating the true hourly wage. However, as minimum wage workers are low paid, and often work fewer hours, the discrepancy between net and gross hourly wage may not be as pronounced as for higher paid workers. Given the fact that we are understating the true hourly wage, we do not apply the 105 per cent cut-off when allocating minimum wage status that was applied using the ESJS data, as doing so would exacerbate the problem of understating the true wage. A minimum wage worker in the EWCS is therefore classified as an employee with an hourly wage equal to or less than the minimum wage in 2015, which was €8.65 per hour. All other workers with wages above the minimum wage were classified as non-minimum wage workers. Using EWCS data, we estimate that 10.6 per cent of respondents are minimum wage employees.[15]

In the EWCS, respondents were asked a variety of questions about their physical work environment, work intensity, working time quality, social environment, skills

[15] The EWCS focuses on individuals aged 15 to 87.

and discretion, work prospects, and earnings. Answers to each question were used to create binary or continuous variables reflective of job quality. For detailed information on each of the job quality questions and the derived variables see Appendix B.

We compare the key job quality measures by minimum wage status. The full set of descriptive statistics for job quality measures, of which there are 87, are listed in Appendix C. For each measure of job quality, we show the difference between minimum wage and non-minimum wage workers. In Table 3.3, we report statistics of selected job quality measures that show a statistically significant difference between minimum wage and higher paid employees.

The results indicate that minimum wage workers are more likely to experience physical risks associated with handling chemicals and carrying heavy loads. In terms of working time arrangements, minimum wage workers are more likely to work weekends and to work longer hours (over ten hours in a day) compared to non-minimum wage workers, although minimum wage workers report lower commuting time. Minimum wage employees are also more exposed to regular changes in working time, however they appear to have greater flexibility in setting their own hours compared to higher paid workers. In terms of the social environment, there are positive aspects to minimum wage employment, as minimum wage workers are more likely to report working in contexts where the boss gets people to work together, compared to non-minimum wage workers. However, minimum wage workers also report lower rates of trade union representation and lower presence of health and safety committees at work. In terms of skills and discretion, minimum wage workers are less likely to deal at work with unforeseen problems and complex tasks, and also less likely to work with computers, compared to non-minimum wage workers. Minimum wage workers report lower rates of training provided by their employers and lower rates of on-the-job training. A positive aspect is that minimum wage workers report having a greater say in the choice of colleagues compared to non-minimum wage workers.

In terms of work prospects, minimum wage workers are less likely to be on a permanent contract than non-minimum wage workers, but more likely to be registered with a temporary employment agency, and to be in an apprenticeship or training scheme. Lastly, regarding work intensity, minimum wage workers are less likely to work to tight deadlines, to be dependent on other colleagues' work, to receive direct work demands by others, to work on targets and to be controlled in pace by their boss, compared to non-minimum wage workers. However, it is not clear that these variables indicate worse job quality, as jobs requiring tight deadlines and the requirement to work with others are potentially better, higher quality jobs that require a greater mix of skills and teamwork.

TABLE 3.3 DESCRIPTIVE STATISTICS OF JOB QUALITY CHARACTERISTICS IN EWCS

Job quality measures	Min. Wage Workers	Non-min. Wage Workers	P-value
Excess physical risk			
Handling chemicals	9%	5%	0.13
Carrying heavy loads	15%	6%	0.00***
Excess work intensity			
Working to tight deadlines	26%	36%	0.06*
Depend on work by colleagues	34%	50%	0.01***
Direct demands by others	64%	73%	0.10*
Work on targets	13%	30%	0.00***
Boss controls pace	38%	44%	0.29
Working time quality			
Less than 11h between working days	26%	21%	0.22
Travel time per day (minutes)	39.77	49.98	0.06*
Work time difference between actual and preferred hours (hours)	3.25	1.39	0.17
Work on Sundays per month (no. of times)	1.11	0.822	0.05**
Work on Saturdays per month (no. of times)	2.04	1.31	0.00***
Working more than 10h Days (days per month)	4.51	2.81	0.01***
Work hours set by yourself	26%	10%	0.00***
Work hour arrangements change regularly	41%	23%	0.01***
Social environment			
Boss gets people working together	89%	75%	0.02**
Work is distributed fairly	80%	73%	0.21
Trade union or similar representation	28%	49%	0.00***
Health and Safety committee present	47%	77%	0.00***
Skills and discretion			
Job involves solving unforeseen problems	68%	82%	0.00***
Job involves complex tasks	49%	61%	0.03**
Job involves working with computers etc.	9%	45%	0.00***
Have a say in the choice of colleagues	35%	21%	0.012**
Training provided by employer	41%	56%	0.03**
On-the-job training undergone	40%	55%	0.01***
Training combined	47%	68%	0.00***
Prospects			
Permanent	45%	75%	0.00***
Fixed term	11%	9%	0.61
Temporary agency	11%	2%	0.00***
Apprenticeship or training scheme	6%	1%	0.01***
No contract	28%	13%	0.00***
N. of observations	93	713	

Source: 2015 European Working Conditions Survey.
Note: Sample weights are applied. P-values relate to the difference in mean characteristics between minimum wage and non-minimum wage workers. *** p<0.01, **p<0.05, *p<0.10.

3.1.4 The incidence of minimum wage employment

Table 3.4 compares the incidence of minimum wage employment across all three datasets. The incidence is higher for the EWCS (10.6 per cent) compared to the ESJS (7.2 per cent) and LFS data (6.8 per cent using the question and 8.2 per cent using the administrative wage data).[16] This may be due to the fact that we are using net hourly wage and may therefore be allocating minimum wage status to some employees whose true gross hourly wage is slightly above the minimum wage.

TABLE 3.4 COMPARISON OF MINIMUM WAGE EMPLOYMENT INCIDENCE ACROSS THE THREE DIFFERENT DATASETS

	Percentage and no. of observations	Sample size
Labour Force Survey (as per question)	6.8% (2,985)	43,823
Labour Force Survey (as per administrative data)	8.2% (2,483)	30,319
European Skills and Jobs Survey	7.2% (71)	992
European Working Conditions Survey	10.6% (93)	806

Source: 2022 LFS, 2014 ESJS, 2015 EWCS (authors' analysis).

16 Although the ESJS and EWCS are from earlier years, the composition and incidence of MW employment appears relatively stable over time. The incidence as per earlier work by McGuinness et al. (2019) was 8 per cent in 2017. The average of the ESJS and EWCS measures for 2014/2015 was 8.9 per cent. For 2022, the administrative wage measure gives an incidence of 8.2 per cent compared to 6.8 per cent using the minimum wage question. Furthermore, consistent with our 2022 results, previous papers have also shown that in earlier years, MW workers were heavily concentrated in accommodation food and retail sectors (McGuinness et al., 2019; Redmond, 2020).

SECTION 4

Regression analysis

While Section 3 presented simple descriptive statistics showing average job quality measures for minimum wage and non-minimum wage workers, in this section we examine these relationships in more detail in a regression framework. We estimate the impact of minimum wage status on each of our job quality indicators, while also controlling for other factors including age, gender and education level. We restrict our control variables to this narrow set of personal characteristics, as many control variables may themselves be correlated with minimum wage status. However, in Appendix D, we also present results from regression equations that incorporate an expanded set of covariates, including sector, nationality and job tenure.[17]

In instances where the explanatory variable (the job quality measure) is binary, we implement a probit regression model, which takes the form,

$$P(JQ_i = 1|X_i) = \Phi(X_i'\alpha)$$

where JQ is the dependent binary variable that captures the specific measure of job quality. *X* is a vector of explanatory variables. This includes person *i*'s minimum wage status, which is our main variable of interest. It also includes gender, age, and educational attainment. α represents the vector of coefficients associated with the independent variables, and Φ denotes the cumulative normal density function. Marginal effects are estimated from the probit regression for each measure of job quality. Marginal effects are interpreted as the impact of a one-unit change in the characteristic on the job quality measure. For example, the marginal effect associated with the minimum wage variable tells us the change in the outcome variable associated with going from non-minimum wage to minimum wage status.

If the outcome variable is continuous, we implement an OLS regression of the form,

$$JQ_i = \gamma + X_i'\beta + \epsilon_i$$

where, as before, *JQ* denotes the job quality measures, and X is a vector containing the minimum wage indicator as well as variables for age, gender and educational attainment , and β is the vector of coefficients to be estimated.

For our regression analysis, we implement some data restrictions and exclusions. We exclude outliers that report weekly hours worked greater than 60, which is approximately 1 per cent of each dataset. After we derived the hourly wage for

[17] The sector variable is a dummy variable which equals 1 if the employee is in retail or accommodation and food and 0 if in another sector. The choice of these two sectors for the construction of the dummy variable is based on the fact that these sectors alone account for almost half of all minimum wage employment.

each survey respondent, we implemented a lower bound of €4 per hour in ESJS and EWCS, and €5 per hour in LFS to exclude observations below this cut-off point. We chose these cut-off points to exclude workers from potentially non-compliant employers, or hourly wage observations that were implausibly low, which may be indicative of errors in reported earnings or hours of work.[18]

4.1 LFS REGRESSION RESULTS

The LFS results are presented in Table 4.1. Focusing on the coefficients associated with the minimum wage variable, we see that minimum wage workers are 19 percentage points less likely to work from home on a daily basis or at least some of the time in the week, compared to non-minimum wage workers (Column 2). Column (3) shows that being a minimum wage worker decreases the likelihood of being a member of a union by 23 percentage points. Column (4) shows that minimum wage workers are 14 percentage points more likely to be in a job with a temporary contract rather than permanent, compared to non-minimum wage workers. Finally, minimum wage workers are 7 percentage points more likely to report they would prefer to work more hours than they actually do, compared to non-minimum wage workers (Column 5).[19] The impact of minimum wage status does not have a statistically significant impact on the likelihood of involuntary part-time work (Column 1).[20] Note that for this measure, the sample is restricted to only part-time workers, as the question is only relevant for this group.

[18] The reason we use the €4 cut-off for the ESJS and EWCS, while using €5 for the LFS, is that the LFS data relate to 2022 when the minimum wage was €10.50 per hour, while the ESJS and EWCS relate to 2014 and 2015 respectively, when the minimum was €8.65 per hour.

[19] Appendix Table D.1 contains the regression results using the expanded set of control variables. The results are broadly consistent.

[20] Note that involuntary part-time work is defined as individuals working part-time and reporting the reason for such work as not being able to find full-time work.

TABLE 4.1 LFS REGRESSION RESULTS (MINIMUM WAGE WORKERS BASED ON THE QUESTION)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**Involuntary part-time**	**Working from home**	**Union membership**	**Temporary contract**	**Want to work more hours**
Min. Wage	0.01	-0.19***	-0.23***	0.14***	0.07***
	(-0.01)	(-0.01)	(-0.01)	(-0.01)	(-0.01)
Male	0.06***	0.03***	-0.06***	-0.01***	0.03***
	(-0.01)	(-0.00)	(-0.00)	(-0.00)	(-0.00)
Age	0.00***	0.00***	0.01***	-0.00***	-0.00***
	(-0.00)	(-0.00)	(-0.00)	(-0.00)	(-0.00)
Post-Secondary education	0.06***	0.04***	0.03***	-0.02***	0.02***
	(-0.01)	(-0.009)	(-0.007)	(-0.0031)	(-0.005)
University degree/PhD	0.02***	0.38***	0.07***	-0.01***	-0.03***
	(-0.01)	(-0.0)	(-0.01)	(-0.00)	(-0.00)
Observations	8,853	43,206	41,097	43,107	42,261

Source: 2022 Irish Labour Force Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The regression results using the alternative classification of minimum wage workers are shown in Table 4.2. The results for working from home and union membership, in terms of magnitude and statistical significance, are similar to the other method for identifying minimum wage workers (the direct question method). However, for the outcome variables *capturing temporary contract* and *want to work more hours*, while the sign and statistical significance are similar across both measures, the magnitude is far higher when we use the direct question to identify minimum wage workers. For example, Table 4.1 indicates that minimum wage status is associated with a 14 percentage points increase in the likelihood of having a temporary contract and a 7 percentage point increase in the likelihood of wanting to work more hours. When using the administrative wage data method, the effect of minimum wage status on the probability of having a temporary contract and wanting to work more hours is an increase of just 4 and 3 percentage points respectively. When it comes to involuntary part-time status, the result is not statistically significant.[21]

[21] The expanded specification including the additional job-related covariates is shown in Appendix Table D.2.

TABLE 4.2 LFS REGRESSION RESULTS (MINIMUM WAGE WORKERS BASED ON ADMINISTRATIVE EARNINGS DATA)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**Involuntary part-time**	**Working from home**	**Union membership**	**Temporary contract**	**Want to work more hours**
Min. Wage	-0.01	-0.18***	-0.21***	0.04***	0.03***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Male	0.11***	0.01**	-0.05***	-0.02***	0.03***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00***	0.00***	0.01***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-Secondary education	0.05***	0.05***	0.03***	-0.03***	0.01*
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
University degree/PhD	-0.00	0.38***	0.08***	-0.04***	-0.04***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Observations	6,304	29,981	28,656	29,932	29,367

Source: 2022 Irish Labour Force Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

While many individuals who indicate they are minimum wage employees according to the direct LFS question are also categorised as minimum wage employees using the administrative wage data method, a significant number of employees are categorised as a minimum wage employee based on one measure but not the other. While a detailed investigation as to the similarities and differences between the two classification criteria is beyond the scope of this current paper, future work will study this further. However, as an additional robustness test, we carry out regressions on a sample of employees that are classified as minimum wage employees using both criteria. The results are shown in Table 4.3.[22] The coefficients are similar in magnitude and statistical significance when compared to our original estimates in Table 4.1 that use the direct question only.

[22] The expanded specification including the additional job-related covariates is shown in Appendix Table D.3.

TABLE 4.3 LFS REGRESSION RESULTS (MINIMUM WAGE WORKERS ACCORDING TO BOTH THE CRITERIA USED)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
Min. Wage	-0.01	-0.27***	-0.28***	0.11***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Male	0.07***	0.01**	-0.07***	-0.01***	0.03***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00*	0.00**	0.01***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.03***	0.04***	0.01	-0.01***	0.01**
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
University degree/PhD	-0.00	0.38***	0.05***	-0.01***	-0.04***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	4,538	26,553	25,439	26,544	26,053

Source: 2022 Irish Labour Force Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

4.1.1 Examining wage percentiles

The above job quality analysis compared minimum wage employees to all other employees. This includes workers earning slightly above the minimum wage as well as very high-income employees that earn far more than the minimum wage. Instead of using a binary (minimum wage versus non-minimum wage) variable, we can incorporate the heterogeneity of the non-minimum wage group by examining different wage percentiles. Specifically, in addition to our minimum wage group, we create four dummy variables, each capturing a different category of earner. The first group, denoted PAY 1, are low-paid employees that earn above the minimum wage. These are categorised as employees earning above €10.50 per hour and below the 25th percentile of the wage distribution (or €14.42 per hour). The second group, labelled PAY 2, consist of those earning above the 25th percentile (€14.42 per hour) and below the 50th percentile (€20.69 per hour). The third group, PAY 3, earning above the 50th percentile (€20.69 per hour) and below the 75th percentile (€30.97 per hour), and finally the fourth group, PAY 4, earning above the 75th percentile (€30.97 per hour) and below the 99th percentile (€80.94 per hour).

We estimate our regression equation by including the dummy variables, PAY 1 to PAY 4, while using the minimum wage group as the omitted (reference) category, with the results shown in Table 4.4. This approach allows us to evaluate whether hourly wage has a monotonic relationship with the different job quality measures. Take union membership as an example. Relative to minimum wage employees, low earners with an hourly wage above the minimum wage but below the 25th percentile of the wage distribution are five percentage points more likely to be a member of a union. This increases to 23 percentage points for the third highest earning group and 42 percentage points for the second highest earners, while the

highest earning employees are 43 percentage points more likely to be in a union compared to minimum wage employees. The probability of working from home also displays a similar pattern to the union membership results, increasing as hourly wages increase. The probability of being on a temporary contract and of wanting to work more hours decreases as hourly wage increases. For example, relative to minimum wage employees, the highest earning group (PAY 4) are 6 and 8 percentage points, respectively, less likely to be on a temporary contract and to want to work more hours. For involuntary part-time status, the results indicate that the low earners with an hourly wage above the minimum wage (PAY 1) are 5 percentage points more likely to experience this compared to minimum wage employees. However, the higher paid groups (PAY 2 to PAY 4) are between 2 and 3 percentage points less likely to experience this than minimum wage employees.[23]

TABLE 4.4 LFS REGRESSION RESULTS (WAGE PERCENTILES)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
PAY 1	0.05***	0.03*	0.05***	-0.00	0.01*
	(0.01)	(0.02)	(0.01)	(0.00)	(0.01)
PAY 2	-0.02*	0.17***	0.23***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
PAY 3	-0.02**	0.28***	0.42***	-0.05***	-0.05***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
PAY 4	-0.03**	0.41***	0.43***	-0.06***	-0.08***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Male	0.10***	-0.01**	-0.08***	-0.01***	0.03***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00***	-0.00***	0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.05***	0.05***	0.01	-0.02***	0.01**
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
University degree/PhD	0.01	0.31***	-0.02**	-0.02***	-0.02***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Observations	6,304	29,981	28,656	29,932	29,367

Source: 2022 Irish Labour Force Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

[23] For robustness, we also estimate this expanded wage specification using the additional explanatory variables (nationality, sector and job tenure) and present the results in Appendix Table D.4. Although there is some variation in the coefficient estimates, the results are broadly consistent with Table 4.4.

4.2 ESJS REGRESSION RESULTS

Recall that for the ESJS data, our job quality indicators include job satisfaction, the reported likelihood of the worker losing their job in the following year, and the levels of matching or mismatching of the skills workers have compared to the skills required in their job. Other indicators include workers' preferences for choosing the job they are currently doing, such as job security, career prospects, the proximity to home, the degree of interest in the nature of the job and work-life balance.

We present results in Table 4.5. Minimum wage workers are 8 percentage points more likely to believe that they will lose their job than non-minimum wage workers. Note that the coefficient is marginally outside the conventional range of statistical significance (p-value 0.12). However, in Appendix Tables E.3 and E.5 we carry out robustness tests by varying the cut-off for designating a person as believing they are likely to lose their job.[24] The coefficient in Tables E.3 and E.5 are of a similar magnitude (approximately 10 percentage points) and are statistically significant. From Table 4.5, we also see that minimum wage employees are 13 percentage points more likely to be in a job where their skills are higher than those required by the position, compared to non-minimum wage workers.

[24] As noted in Section 3.1.2, a binary indicator of perceived job insecurity is created. For Table 4.5, this equals 1 if the respondent reports a value of six or above and 0 otherwise. In Tales E.3 and E.5, we use a cut-off of five and seven respectively.

TABLE 4.5 ESJS REGRESSION RESULTS (1)

VARIABLES	Job satisfaction	Likely to lose job	Overskilled	Underskilled	Matched
Min. Wage	-0.05	0.08	0.13**	0.02	-0.15**
	(0.06)	(0.056)	(0.06)	(0.03)	(0.06)
Male	0.00	0.00	0.05	0.01	-0.07**
	(0.03)	(0.027)	(0.03)	(0.02)	(0.03)
Age	0.00	-0.00	0.00	0.00	-0.00
	(0.00)	(0.001)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	-0.00	-0.07	0.15*	-0.04	-0.09
	(0.06)	(0.047)	(0.07)	(0.03)	(0.07)
Short-cycle tertiary education (ISCED 5)	0.02	-0.07	0.30***	0.01	-0.28***
	(0.06)	(0.047)	(0.07)	(0.03)	(0.06)
Bachelor's or equivalent level (ISCED 6)	0.05	-0.13***	0.31***	-0.03	-0.26***
	(0.06)	(0.049)	(0.07)	(0.03)	(0.06)
Master's or equivalent level (ISCED 7)	0.16**	0.01	0.19	0.11	-0.26***
	(0.07)	(0.089)	(0.11)	(0.09)	(0.09)
Observations	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

In relation to the factors that were important in the decision to accept their job (see Table 4.6), minimum wage workers are 11 percentage points less likely to choose a job because it offers good career progression, compared to non-minimum wage workers. Minimum wage workers are also 12 percentage points less likely than non-minimum wage workers to choose a job because of the pay and benefits.[25]

[25] Appendix Tables E.1 and E.2 contains the regression results using the expanded set of control variables (nationality, job tenure and sectors) and show similar results to Tables 9 and 10.

TABLE 4.6 ESJS REGRESSION RESULTS (2)

VARIABLES	Job security	Career Progression	Benefits	Proximity to home	Interest in the job	Work-life balance
Min. Wage	-0.08	-0.11*	-0.12*	-0.05	-0.05	-0.01
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)
Male	0.03	0.05*	0.12***	-0.06**	0.00	-0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Age	-0.00*	-0.00	-0.00	0.00	0.00**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	0.02	0.03	0.05	0.09	-0.02	0.00
	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Short-cycle tertiary education (ISCED 5)	0.01	0.10**	0.03	0.07	0.07	-0.00
	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)
Bachelor's or equivalent level (ISCED 6)	-0.01	0.08	0.01	-0.01	0.15***	0.02
	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)
Master's or equivalent level (ISCED 7)	-0.06	0.16**	0.01	0.02	0.11*	0.11
Min. Wage	(0.09)	(0.06)	(0.10)	(0.11)	(0.06)	(0.08)
Observations	992	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Finally, we test the sensitivity of our results to using different cut-off points for creating the binary dependent variables. Our baseline specification uses a cut-off of six on specific job quality measures. For example, for the job satisfaction variable, we created a dummy variable with value 0 if respondents rank their satisfaction as six or above, and 0 for those who rank their satisfaction from zero to five. In general, we find that the impact of minimum wage on job quality measures is similar when the cut-off point is decreased from 6 to 5 (Appendix Table E3 and E4) or increased from 6 to 7 (Appendix Table E5 and Table E6) on a specific job quality index (an index for each dependent variable ranges from zero to ten).

4.3 EWCS REGRESSION RESULTS

Recall that there are 87 different job quality indicators in the EWCS data. For our regression analysis, we focus only on those indicators for which the descriptive statistics showed a statistically significant difference between minimum wage and non-minimum wage workers. In the interest of brevity, Table 4.7 reports the results for this selection of job quality measures, focusing only on the minimum wage coefficient.

The results in Table 4.7 largely confirm the earlier descriptive findings. Minimum wage employees tend to work longer and more unsocial hours, and are less likely

to have union representation compared to higher paid workers. Minimum wage employees are also less likely to receive training and are less likely to be on a permanent contract, while experiencing slightly greater physical risk (in terms of heavy lifting) compared to non-minimum wage workers. The results also show that minimum wage workers work face fewer deadlines, work in jobs requiring less complex tasks and are less likely to work with computers compared to higher paid workers. These factors are indicative of minimum wage employees working in more elementary, low-paid occupations that require fewer technical skills.[26]

TABLE 4.7 EWCS REGRESSION RESULTS

Job Quality indicators	β Minimum Wage variable
Physical Risk	
Carrying heavy loads	0.05*
Social Environment	
Work together	0.10**
Union representation	-0.16**
H&S Committee	-0.16**
Working time quality	
Little time between workdays	0.12**
Work time difference between actual and preferred hours	3.45***
Work Sundays	0.38**
Work Saturdays	0.85***
Days (per month) working more than 10h	1.37**
Set own hours	0.18***
Skills and discretion	
Solving unforeseen problems	-0.11**
Complex tasks	-0.13**
Working with computers	-0.31***
Having a say in the choice of colleagues	0.14**
Training (employer or on-the-job)	-0.20***
Prospects	
Permanent contract	-0.23***
Temporary employment agency	0.09**
Work intensity	
Working to tight deadlines	-0.14***
Depend on work by colleagues	-0.15***
Direct demands by the others	-0.12**
Work on targets	-0.17***
Boss controls pace	-0.13**

Source: 2015 European Working Conditions Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

[26] Results using the expanded specification (nationality, tenure and sector) are shown in Appendix F.

SECTION 5

Conclusion

In recent years there has been an increased policy focus on the provision of high-quality jobs. This is important for employee well-being, labour force participation, and is indicative of a productive and well-functioning economy. The emphasis on job quality is reflected in the recent strategic policy documentation of organisations such as the European Commission, the ILO and the OECD.

When thinking about job quality, the level of remuneration is often the first component that is considered. However, job quality is multidimensional, consisting of a variety of factors such as job security, safety, promotion prospects, work relationships, work-life balance, and training, among many others. While there are many factors that could potentially be considered when looking at job quality, data constraints may limit the factors that researchers can examine.

In this report, we examined the quality of minimum wage jobs in Ireland. As we are focused on minimum wage employment, which by definition comprises low-paying jobs, we focus on aspects of job quality beyond remuneration. We utilise three separate datasets to compare minimum wage employees to non-minimum wage employees across a range of job quality indicators. We find that minimum wage employees are more likely than higher paid employees to fear job loss, hold temporary contracts and to be involved in involuntary part-time work, whereby they work part-time because they cannot find a full-time job. Minimum wage employees are far less likely to be members of a trade union and have less flexibility in their job, as measured by their capacity to work from home. Compared to higher paid workers, minimum wage employees are also found to work longer shifts (more than ten hours) that coincide with more unsocial times (Saturdays and Sundays). They are also 13 percentage points more likely to work in jobs in which their skills are underutilised and are less likely to receive training, while also reporting lower job complexity and levels of computer usage.

Most job quality indicators used in this study indicate that minimum wage workers are more likely to experience lower quality employment. However, there are three indicators where minimum wage employees score favourably. Minimum wage employees are more likely to be in jobs where they have a choice in the colleagues they work with and in the hours that they work. In addition, minimum wage employees are more likely to be in jobs where the boss is successful in getting people to work together.

Overall, our research indicates that minimum wage employees, in addition to facing low levels of pay, may also face less favourable job quality conditions as measured by a variety of factors. This highlights the importance of monitoring not only a minimum level of pay, but a minimum level of acceptable terms and conditions of employment. For many low-paid workers, minimum wage employment may be a relatively short-term stepping-stone to higher pay. However, for others it may be a longer-term arrangement. The combination of low pay and other potentially unfavourable job quality measures is of particular concern for individuals that may be long-term minimum wage employees.

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APPENDIX A

ESJS job quality questions and how variables were derived

In the ESJS, respondents were asked to rate some job quality indicators on a scale of zero to ten. For the satisfaction related to the job, we created a dummy variable which equals 1 when respondents rated it six or above, and 0 in all other cases. Respondents were also asked to rate the likelihood that they would lose their current job. A dummy variable with value 1 was created for the observations for which the variable was rated six or above, and 0 in other cases. Individual were asked to rate the importance of 'factors to accept current job', such as job security, career progression, pay and other benefits, job proximity to home, interest in the work itself, and good work-life balance. A dummy variable with value 1 was created for the observations for which the variables were rated six or above ('moderately important'), and 0 where they stated that the factors were less than moderately important. Individuals who did not provide an answer to this question or stated that they 'don't know' were excluded from the analysis. Respondents were also asked to rate the skill requirements for their job and three binary variables were created: the first equals 1 if the individuals report to be underskilled, 0 in all the other cases; the next equals 1 if the individuals report to be skill-matched, 0 in all the other cases; the third equals 1 if the individuals report to be overskilled, 0 in all the other cases. All the binary variables created were then used to run probit models to estimate the job quality of minimum wage workers.

APPENDIX B

EWCS job quality questions and how variables were derived

In the EWCS, respondents were asked a variety of questions about physical work environment, work intensity, working time quality, social environment, skills and discretion, and work prospects.[27] Answers to each question were used to create binary or continuous variables reflective of job quality. Regarding ***excess physical risks***, respondents were asked to rate how much they were exposed at work to noise, extreme temperatures, smoke, vapours, chemical products, infectious materials, vibrations, painful positions, to lifting people and carrying heavy loads. Binary variables with value 1 were created for the observations for which respondents replied 'all of the time' and 'almost all of the time', 0 in all other cases.

Regarding ***working time quality***, respondents were asked to indicate their weekly actual working hours and also how many hours they would prefer to work. Respondents were also asked about their number of weekly working days, commuting minutes per day, hours worked at night and on Saturdays and Sundays and how many days a month it happens they work over ten hours a day. Continuous variables were created for these job quality indicators. Respondents also reported whether it happens that they have less than 11 hours between working days and whether they work on shifts, also whether the working hours are completely set by the company without possibility of change, or they can adapt hours in a flexible arrangement, even determine them independently. Binary variables with value 1 were created for the observations for which respondents replied 'yes', value 0 in all the other cases.

Regarding ***social environment*** characteristics, respondents were asked how often they received support from their colleagues and managers. Binary variables with value 1 were created for the observations for which respondents replied, 'always' and 'most of the time', with 0 otherwise. Individuals had to evaluate their bosses' attitude and report to what extent they felt respected by them, whether they gave praise and recognition, were successful in getting people to work together, helpful in getting the job done, supportive and able to give constructive feedback, whether conflicts were resolved in a fair way and the job was distributed fairly. Binary variables with value 1 were created for the observations for which respondents replied, 'strongly agree' or 'tend to agree', and 0 otherwise. Respondents were asked whether trade unions or similar representation existed at company level, a Health and Safety committee was present and regular employee/employer meetings were scheduled. Binary variables with value 1 were created when

[27] The questionnaire can be found here: https://www.eurofound.europa.eu/sites/default/files/page/field_ef_documents/uk_questionnaire.pdf.

individuals replied 'yes', value 0 otherwise. Individuals were also asked to report whether they have ever been subjected at the workplace to verbal abuse, unwanted sexual attention, threats, humiliating behaviours, physical violence, sexual harassment, bullying and harassment. Binary variables with value 1 were created for the observations for which respondents replied 'yes', value 0 otherwise.

In terms of ***skills and discretion***, respondents were asked to report whether their job involved solving unforeseen problems, complex tasks and learning new things, and whether they can choose their task order, methods and speed of work. Binary variables with value 1 were created for the observations for which respondents replied 'yes', with 0 otherwise. Individuals had to report how often their job involved working with computers: a binary variable was created that equals 1 when they replied 'all of the time' and 'almost all of the time', and 0 otherwise. They were also asked how often they feel able to apply their own ideas at work: a binary variable with value 1 was created when they replied 'always' and 'most of the time', value 0 otherwise. They were asked how often they judge to have a say in the choice of their work colleagues: a binary variable with value 1 was created when they replied 'always' and 'most of the time', value 0 in all other cases. Individuals had to report how often they are consulted before objectives are set for their work, they feel involved in improving the work organisation and can influence important decisions. Binary variables with value 1 were created when they replied 'always' and 'most of the time', 0 otherwise. Lastly, respondents were asked whether they received training paid by their employer or on-the-job training. Binary variables with value 1 were created for the observations for which respondents replied 'yes', value 0 in all other cases.

In terms of ***job prospects***, respondents had to indicate their type of employment contract and five binary variables were created. The first equals 1 if the individuals is on permanent contract, 0 otherwise; the second equals 1 if the individual has a fixed-term job, 0 otherwise; the next equals 1 if the individual has a temporary agency work, 0 otherwise; the next equals 1 if the individual is in an apprenticeship or training scheme, 0 otherwise; and the final variable equals 1 if the individual has no contract, 0 in all other cases. Individuals also had to report whether their job offers good prospects for career advancement and whether they felt at risk of losing it in the following six months. Binary variables with value 1 were created for the observations for which respondents replied, 'strongly agree' or 'tend to agree', 0 in all other cases. Lastly, individuals were asked whether in the previous three years the number of employees at the workplace had increased or not: a binary variable with value 1 was created when they answered 'increased a lot' and 'increased a little', value 0 in all other cases.

In terms of **work intensity**, respondents had to report how often their job involved working at very high speed and working to tight deadlines: two binary variables

with value 1 were created when they replied ‘all of the time’ and ‘almost all of the time’, with value 0 otherwise. They were also asked whether they had enough time to get the job done: a binary variable with value 1 was created as they replied ‘rarely’ and ‘never’, with value 0 in all other cases. Individuals were asked how often they had to interrupt a task in order to take on an unforeseen task: a binary variable with value 1 was created as they replied ‘very often’, value 0 in all other cases. Moreover, they were asked whether they considered these interruptions on the job a positive or negative issue: a binary variable with value 1 was created when they replied ‘disruptive’, value 0 when they replied ‘positive’ or without consequences. Respondents were asked to indicate whether their pace of work was dependent on the work done by colleagues, direct demands from other people, numerical production or performance targets, automatic speed of a machine and the direct control of the boss. Five binary variables corresponding to the answers with value 1 were created when individuals replied ‘yes’, 0 otherwise. Individuals were asked whether their job required they hide their feelings: a binary variable with value 1 was created when they replied ‘always’ and ‘most of the time’, 0 otherwise. Finally, respondents had to report how often they had to deal with handling angry clients and being in emotionally disturbing situations: two binary variables with value 1 were created when they replied ‘all of the time’ and ‘almost all of the time’, 0 in all other cases.

APPENDIX C

TABLE C.1 EWCS JOB QUALITY MEASURES – DESCRIPTIVE STATISTICS FOR MINIMUM-WAGE AND NON-MINIMUM WAGE WORKERS

	Min. Wage Workers (mean)	Non-min. Wage Workers (mean)	Difference	p-value
Excess Physical Risk - Ambient				
Loud noise	0.04	0.05	-0.02	0.48
High temperature	0.03	0.03	-0.01	0.73
Low temperature	0.05	0.03	0.02	0.28
Excess Physical Risk - Biological or Chemical				
Breathing smoke/fumes	0.07	0.02	-0.01	0.36
Breathing vapours	0.03	0.01	0.01	0.27
Handling chemicals	0.08	0.054	0.03	0.09
Tobacco smoke from others	0.02	0.06	0.01	0.24
Infectious materials	0.08	0.07	0.01	0.63
Excess Physical Risk - Posture Related				
Vibrations from tools	0.05	0.03	0.02	0.27
Painful positions	0.12	0.07	0.04	0.22
Lifting/moving people	0.03	0.05	-0.02	0.39
Carrying heavy loads	0.15	0.06	0.08	0.00
Repetitive movements	0.29	0.28	-0.00	0.98
Excess Work Intensity & Pace Determinants - Quantitative				
Working at high speed	0.18	0.23	-0.05	0.32
Working to tight deadlines	0.26	0.23	0.02	0.06
Not enough time to get the job done	0.05	0.09	-0.04	0.19
Interruptions at work	0.15	0.24	-0.08	0.11
Disruptive interruptions	0.07	0.13	-0.07	0.11
Excess Work Intensity & Pace Determinants - Pace Determinants				
Depend on work by colleagues	0.34	0.49	-0.16	0.01
Direct demands by others	0.64	0.73	-0.09	0.10
Targets	0.13	0.30	-0.17	0.00
Depend on automatic speed	0.16	0.15	0.01	0.78
Boss controls pace	0.38	0.49	-0.06	0.09
Excess Work Intensity & Pace Determinants - Emotional Demands				
Requires to hide feelings	0.30	0.38	-0.07	0.19
Requires handling angry clients etc.	0.08	0.14	-0.06	0.04
Emotionally disturbing situations	0.02	0.04	-0.02	0.37

Contd.

TABLE C.1 CONTD.

	Min. Wage Workers (mean)	Non-min. Wage Workers (mean)	Difference	p-value
Working time quality - Duration				
Hours per week	36.54	34.55	1.99	0.17
Days per week	4.70	4.59	0.11	0.37
Hours prefer to work	33.28	33.17	0.12	0.92
Less than 11h between working days	0.27	0.21	0.06	0.02
Travel time per day (mins)	39.78	49.98	-10.20	0.06
Work time difference between actual and preferred hours	3.25	1.39	1.85	0.03
Working time quality - Schedule & Atypical Working Time				
Night-work	1.72	1.56	0.16	0.70
Work on Sundays (no. of times)	1.11	0.82	0.29	0.05
Work on Saturdays (no. of times)	2.04	1.32	0.72	0.0000
Days working more than 10h (p.m.)	4.52	2.82	1.69	0.00
Work shifts	0.46	0.57	-0.10	0.47
Working time quality - Working Time Arrangements				
Work hours set by company	0.57	0.62	-0.04	0.42
Work hours chosen from a fixed set	0.041	0.06	-0.02	0.16
Work hours chosen within limits	0.14	0.20	-0.06	0.08
Work hours set by yourself	0.26	0.09	0.16	0.00
Work hour arrangements change regularly	0.41	0.23	0.18	0.00
Working time quality - Flexibility				
Regularly work in free time	0.12	0.09	0.02	0.50
Very difficult to take time off during working hours	0.09	0.09	-0.01	0.87
Social Environment - Social Support				
Helpful and supportive colleagues	0.83	0.89	-0.06	0.16
Helpful and supportive managers	0.72	0.79	-0.07	0.189
Social Environment - Management Quality				
Boss respects you	0.84	0.89	-0.053	0.22
Boss gives praise	0.82	0.73	0.08	0.15
Boss gets people working together	0.89	0.75	0.14	0.02
Boss helps getting the job done	0.86	0.79	0.07	0.18
Boss provides useful feedback	0.72	0.74	-0.02	0.79
Boss encourages further development	0.85	0.75	0.09	0.11
Conflicts are resolved in a fair way	0.84	0.74	0.09	0.13
Work is distributed fairly	0.80	0.74	0.06	0.09

Contd.

TABLE C.1 CONTD.

	Min. Wage Workers (mean)	Non-min. Wage Workers (mean)	Difference	p-value
Social Environment - Additional Quality Measures				
Trade union or similar representation	0.28	0.49	-0.21	0.00
Health and Safety committee present	0.47	0.77	-0.30	0.00
Regular employee employer meetings	0.47	0.58	-0.12	0.15
Social Environment - Adverse Social Behaviour				
Verbal Abuse	0.17	0.14	0.02	0.53
Unwanted sexual attention	0	0.02	-0.02	0.23
Threats	0.10	0.07	0.03	0.35
Humiliating behaviours	0.08	0.08	0.00	0.35
Physical violence	0.04	0.03	0.01	0.47
Sexual harassment	0	0.01	-0.01	0.34
Bullying/harassment	0.09	0.09	-0.01	0.77
Skills and Discretion - Cognitive Dimension				
Job involves solving unforeseen problems	0.68	0.82	-0.14	0.00
Job involves complex tasks	0.48	0.61	-0.12	0.03
Job involves learning new things	0.74	0.80	-0.06	0.09
Job involves working with computers etc.	0.09	0.45	-0.36	0.00
On the job can apply own ideas	0.64	0.65	-0.01	0.88
Skills and Discretion - Decision latitude				
Able to choose or change order of tasks	0.71	0.67	0.04	0.48
Able to choose or change method of work	0.64	0.67	-0.03	0.64
Able to choose or change speed of work	0.76	0.71	0.05	0.35
Have a say in the choice of colleagues	0.35	0.21	0.14	0.01
Skills and Discretion - Organisational Participation				
Consulted before objectives are set	1	1	0	
Involved in improving work processes	0.59	0.55	0.05	0.41
Can influence work related decisions	0.54	0.58	-0.04	0.52
Skills and Discretion - Training				
Training provided by employer	0.41	0.56	-0.15	0.03
On-the-job training undergone	0.40	0.55	-0.15	0.01
Training combined	0.46	0.67	-0.21	0.00

Contd.

TABLE C.1 CONTD.

	Min. Wage Workers (mean)	Non-min. Wage Workers (mean)	Difference	p-value
Prospects				
Permanent	0.45	0.75	-0.29	0.00
Fixed-term	0.11	0.08	0.02	0.61
Temporary agency	0.11	0.02	0.09	0.00
Apprenticeship or training scheme	0.06	0.01	0.04	0.01
No contract	0.28	0.13	0.15	0.00
Job offers good career prospects	0.51	0.45	0.06	0.36
I might not lose my job in next 6 months	0.76	0.83	-0.08	0.14
Increase in employees at work	0.17	0.30	-0.12	0.01
N. of observations	93	713		

Source: 2015 European Working Conditions Survey.

APPENDIX D

TABLE D.1 LFS REGRESSION RESULTS (BASED ON MINIMUM WAGE QUESTION-EXPANDED MODEL SPECIFICATION)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
Min. Wage	0.00	-0.16***	-0.19***	0.09***	0.06***
	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
Male	0.05***	0.03***	-0.06***	-0.01***	0.03***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Age	0.00***	0.00***	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.05***	0.02**	0.03***	-0.01***	0.02***
	(0.01)	(0.001)	(0.01)	(0.00)	(0.01)
University degree/PhD	0.02***	0.35***	0.05***	-0.01***	-0.03***
	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)
Irish native	-0.02**	0.02**	0.11***	0.02***	-0.05***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Job tenure (years)	-0.00***	0.00	0.01***	-0.01***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Accommodation & food and Retail	0.00	-0.18***	-0.19***	-0.01***	0.01**
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Observations	8,614	41,275	40,150	41,188	40,431

Source: 2022 Irish Labour Force Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE D.2 LFS REGRESSION RESULTS (MINIMUM WAGE WORKERS DEFINITION BASED ON ADMINISTRATIVE EARNINGS DATA – EXPANDED SPECIFICATION)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
Min. Wage	-0.01	-0.16***	-0.16***	0.02***	0.02***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Male	0.08***	0.01**	-0.05***	-0.01***	0.03***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Age	0.00***	0.00	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.04***	0.03***	0.03***	-0.02***	0.01
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
University degree/PhD	-0.01	0.36***	0.05***	-0.02***	-0.04***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Irish native	-0.02	0.01	0.11***	0.02***	-0.06***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Job tenure (years)	-0.00***	0.00***	0.01***	-0.01***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Accommodation & food and Retail	-0.01	-0.18***	-0.21***	-0.00**	0.01*
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Observations	6,126	28,799	28,077	28,754	28,241

Source: 2022 Irish Labour Force Survey.
Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE D.3 LFS REGRESSION RESULTS (MINIMUM WAGE WORKERS DEFINED ACCORDING TO BOTH THE LFS DIRECT QUESTION AND THE ADMINISTRATIVE EARNINGS DATA CRITERIA)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
Min. Wage	-0.01	-0.24***	-0.24***	0.06***	0.04***
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Male	0.06***	0.01*	-0.06***	-0.01***	0.02***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00***	-0.00	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.03**	0.03**	0.02	-0.01***	0.01*
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
University degree/PhD	-0.00	0.36***	0.03***	-0.00***	-0.04***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Irish native	-0.02	0.02*	0.12***	0.01***	-0.06***
	(0.02)	(0.01)	(0.01)	(0.00)	(0.01)
Job tenure (years)	-0.00***	0.00*	0.01***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Accommodation & food and retail	0.01	-0.17***	-0.23***	-0.00***	0.01
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Observations	4,439	25,617	24,999	25,606	25,160

Source: 2022 Irish Labour Force Survey.
Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE D.4 LFS REGRESSION RESULTS (INCOME PERCENTILE WITH ADDITIONAL EXPLANATORY VARIABLES)

VARIABLES	Involuntary part-time	Working from home	Union membership	Temporary contract	Want to work more hours
PAY 1	0.05***	0.01	0.06***	-0.00	0.01
	(0.01)	(0.02)	(0.01)	(0.00)	(0.01)
PAY 2	-0.01	0.15***	0.19***	-0.02***	-0.02***
	(0.01)	(0.01)	(0.02)	(0.00)	(0.01)
PAY 3	-0.01	0.26***	0.31***	-0.02***	-0.04***
	(0.01)	(0.01)	(0.02)	(0.00)	(0.01)
PAY 4	-0.01	0.39***	0.29***	-0.02***	-0.06***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Male	0.09***	-0.02***	-0.07***	-0.01***	0.03***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.00***	-0.00	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary education	0.04***	0.02**	0.02**	-0.02***	0.01*
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
University degree/PhD	0.00	0.28***	-0.00	-0.02***	-0.03***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Irish Nationality	-0.02	-0.00	0.11***	0.02***	-0.06***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Tenure	-0.00***	-0.00***	0.01***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Accommodation, food, retail sector	-0.01*	-0.14***	-0.19***	-0.00***	0.00
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Observations	6,126	28,799	28,077	28,754	28,241

Source: 2022 Irish Labour Force Survey.
Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

APPENDIX E

TABLE E.1 ESJS REGRESSION RESULTS (1) – EXPANDED MODEL SPECIFICATION

VARIABLES	Job satisfaction	Likely to lose job	Overskilled	Underskilled	Matched
Min. Wage	-0.06	0.08	0.13**	0.02	-0.15**
	(0.06)	(0.05)	(0.06)	(0.04)	(0.06)
Male	0.00	0.00	0.05	0.02	-0.07**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Age	0.00	-0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	-0.01	-0.07	0.15*	-0.04	-0.09
	(0.06)	(0.05)	(0.08)	(0.03)	(0.07)
Short-cycle tertiary education (ISCED 5)	0.02	-0.07	0.31***	0.00	-0.28***
	(0.06)	(0.05)	(0.07)	(0.03)	(0.06)
Bachelor's or equivalent level (ISCED 6)	0.07	-0.14***	0.32***	-0.04	-0.26***
	(0.06)	(0.05)	(0.0675)	(0.0325)	(0.06)
Master's or equivalent level (ISCED 7)	0.17**	0.01	0.20*	0.09	-0.26***
	(0.07)	(0.09)	(0.11)	(0.08)	(0.09)
Irish native	0.06*	-0.02	-0.05	0.03	0.02
	(0.04)	(0.03)	(0.04)	(0.02)	(0.04)
Job tenure	-0.01	-0.05	-0.02	-0.05**	0.08
	(0.05)	(0.04)	(0.05)	(0.02)	(0.05)
Accommodation & food and Retail	0.08**	-0.02	0.06	-0.06***	0.02
	(0.04)	(0.08)	(0.05)	(0.02)	(0.05)
Observations	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE E.2 ESJS REGRESSION RESULTS (2) – EXPANDED MODEL SPECIFICATION

VARIABLES	Job security	Career	Benefits	Proximity to home	Interest in the job	Work-life balance
Min. Wage	-0.07	-0.10*	-0.09	-0.06	-0.05	-0.02
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)
Male	0.03	0.05*	0.12***	-0.06**	0.00	-0.01
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Age	-0.00**	-0.00*	-0.00	0.00	0.00**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	0.03	0.03	0.05	0.09	-0.02	0.00
	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Short-cycle tertiary education (ISCED 5)	0.00	0.10**	0.03	0.08	0.07	-0.01
	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)
Bachelor's or equivalent level (ISCED 6)	-0.02	0.07	-0.01	0.01	0.15***	0.02
	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)
Master's or equivalent level (ISCED 7)	-0.07	0.16**	-0.01	0.04	0.11*	0.11
	(0.10)	(0.06)	(0.11)	(0.10)	(0.06)	(0.08)
Irish native	0.01	-0.02	-0.03	0.01	0.06*	0.05
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)
Job tenure	0.06*	0.06	0.08*	-0.00	-0.02	-0.04
	(0.03)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Accommodation & food and Retail	-0.07*	-0.01	-0.14***	0.09**	0.00	-0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Observations	992	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE E.3 ESJS REGRESSION RESULTS (1) – VALUE 5 AS CUT-OFF FOR JOB QUALITY DUMMY INDICATORS

VARIABLES	Job satisfaction	Likely to lose job	Overskilled	Underskilled	Matched
Min. Wage	-0.01	0.10*	0.13**	0.018	-0.15**
	(0.047)	(0.06)	(0.06)	(0.04)	(0.06)
Male	0.012	0.02	0.04	0.01	-0.05**
	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)
Age	0.00	-0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	0.03	-0.12**	0.15*	-0.04	-0.09
	(0.05)	(0.05)	(0.07)	(0.03)	(0.07)
Short-cycle tertiary education (ISCED 5)	0.01	-0.15***	0.29***	0.01	-0.28***
	(0.05)	(0.05)	(0.07)	(0.03)	(0.06)
Bachelor's or equivalent level (ISCED 6)	0.022	-0.22***	0.31***	-0.03	-0.26***
	(0.05)	(0.05)	(0.07)	(0.03)	(0.06)
Master's or equivalent level (ISCED 7)	0.14***	-0.09	0.19	0.12	-0.26***
	(0.04)	(0.08)	(0.11)	(0.09)	(0.08)
Observations	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE E.4 ESJS REGRESSION RESULTS (2) – VALUE 5 AS CUT-OFF FOR JOB QUALITY DUMMY INDICATORS

VARIABLES	Job security	Career	Benefits	Proximity to home	Interest in the job	Work-life balance
Min. Wage	-0.02	-0.03	-0.06	-0.00	-0.03	-0.00
	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Male	0.00	0.01	0.11***	-0.04	-0.02	-0.02
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)
Age	-0.00**	-0.00	-0.00	-0.00	0.00***	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	0.01	0.04	0.06	0.03	-0.00	0.01
	(0.04)	(0.04)	(0.05)	(0.06)	(0.04)	(0.04)
Short-cycle tertiary education (ISCED 5)	-0.01	0.07*	0.06	0.03	0.06*	0.03
	(0.04)	(0.04)	(0.05)	(0.06)	(0.03)	(0.04)
Bachelor's or equivalent level (ISCED 6)	-0.02	0.08*	0.02	-0.01	0.12***	0.04
	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Master's or equivalent level (ISCED 7)	-0.05	0.11***	0.06	0.02	0.04	0.09*
	(0.0)	(0.04)	(0.08)	(0.09)	(0.04)	(0.05)
Observations	992	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE E.5 ESJS REGRESSION RESULTS (1) – VALUE 7 AS CUT-OFF FOR JOB QUALITY DUMMY INDICATORS

VARIABLES	Job satisfaction	Likely to lose job	Overskilled	Underskilled	Matched
Min. Wage	-0.05	0.11*	0.13**	0.02	-0.15**
	(0.06)	(0.05)	(0.06)	(0.03)	(0.06)
Male	-0.05	0.00	0.05	0.01	-0.06**
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Age	0.00***	0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	-0.07	-0.03	0.15*	-0.04	-0.09
	(0.07)	(0.05)	(0.08)	(0.03)	(0.07)
Short-cycle tertiary education (ISCED 5)	-0.06	-0.04	0.29***	0.01	-0.28***
	(0.07)	(0.04)	(0.07)	(0.03)	(0.06)
Bachelor's or equivalent level (ISCED 6)	-0.00	-0.09**	0.31***	-0.03	-0.26***
	(0.06)	(0.04)	(0.07)	(0.03)	(0.06)
Master's or equivalent level (ISCED 7)	0.04	-0.01	0.19	0.11	-0.26***
	(0.11)	(0.08)	(0.11)	(0.09)	(0.09)
Observations	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

TABLE E.6 ESJS REGRESSION RESULTS (2) – VALUE 7 AS CUT-OFF FOR JOB QUALITY DUMMY INDICATORS

VARIABLES	Job security	Career	Benefits	Proximity to home	Interest in the job	Work-life balance
Min. Wage	-0.05	-0.07	-0.08	-0.06	0.001	0.05
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.06)
Male	0.06**	0.03	0.08***	-0.05*	0.02	-0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Age	-0.00	-0.00*	-0.00	-0.00	0.00***	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Post-secondary non-tertiary education (ISCED 4)	0.02	0.01	0.08	0.08	-0.02	-0.02
	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)
Short-cycle tertiary education (ISCED 5)	0.00	0.11*	0.09	0.07	0.104*	0.03
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.06)
Bachelor's or equivalent level (ISCED 6)	-0.02	0.11*	0.05	-0.02	0.19***	0.04
	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)
Master's or equivalent level (ISCED 7)	-0.18	0.12	0.07	0.02	0.10	0.08
	(0.12)	(0.09)	(0.10)	(0.11)	(0.08)	(0.09)
Observations	992	992	992	992	992	992

Source: 2014 European Skills and Jobs Survey.
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

APPENDIX F

TABLE F.1 EWCS REGRESSION RESULTS – EXPANDED MODEL SPECIFICATION

Job Quality indicators	β Minimum Wage variable
Social Environment	
Work together	0.10**
Union representation	-0.14**
H&S Committee	-0.15**
Working time quality	
Little time between workdays	0.12**
Work time difference between actual and preferred hours	3.45***
Work Sundays	0.36**
Work Saturdays	0.83***
Days (per month) working more than 10h	1.35**
Set own hours	0.17***
Skills and discretion	
Solving unforeseen problems	-0.10*
Complex tasks	-0.13**
Working with computers	-0.31***
Having a say in the choice of colleagues	0.15**
Training (employer or on-the-job)	-0.20***
Prospects	
Permanent contract	-0.21***
Temporary employment agency	0.08*
Work intensity	
Working to tight deadlines	-0.13***
Not enough time to get the job done	-0.04*
Depend on work by colleagues	-0.16***
Direct demands by the others	-0.12**
Work on targets	-0.18***
Boss controls pace	-0.13**

Source: 2015 European Working Conditions Survey.
Note: *** p<0.01, ** p<0.05, * p<0.1.

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