Job quality in turbulent times

An update of the European Job Quality Index

Agnieszka Piasna

Working Paper 2023.05

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Brussels, 2023

Print: ETUI Printshop, Brussels

D/2023/10.574/12
ISSN 1994-4446 (print version)
ISSN 1994-4454 (electronic version)

The ETUI is co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the ETUI. Neither the European Union nor the ETUI can be held responsible for them.

Contents

Abstract

This paper presents the latest results of the European Job Quality Index, updated with 2021 data, and compares the relative performance of EU countries on the Index over time. The study makes both a conceptual and an empirical contribution, by proposing an approach to measuring job quality suitable for comparative cross-national research, as well as for guiding policy by clearly indicating the desired direction for change. Moreover, the study reviews evidence in support of the synergy between job quantity and quality, and also reveals the positive relationship between collective interest representation and several other dimensions of job quality. Finally, it illustrates the unequal distribution of job quality across different groups of the European workforce.

1. Introduction

Since the financial and economic crisis erupted 15 years ago and triggered one of the deepest recessions in generations, European labour markets seem to have been confronted with perpetual crisis management. The recovery has been uneven, with policy measures focused for a long time mainly on stimulating job growth and with much less attention to the quality of the jobs created (see e.g. Maricut and Puetter 2018; Piasna et al. 2019). Rising inequalities, sluggish wage growth and the expansion of the precarious gig economy (Tomaskovic-Devey et al. 2020; ILO 2021; Piasna 2022) have been just a few of the many factors ringing alarm bells about the unsustainability of the current economic model. The Covid-19 pandemic, with ensuing widespread lockdowns and restrictions on economic activity, once again posed a serious risk of global recession. Moreover, the pandemic and the sanitary measures that followed had an important transformative effect on the way work is organised and performed. They accelerated the technological and digital transition, having a significant impact on psychosocial risks, job security and work-life balance (see e.g. Countouris et al. 2023). Without much respite after the shock of the pandemic, European societies are now confronted with energy and cost of living crises, all this taking place in the context of ongoing socio-ecological and digital transformations. These processes have an inevitable impact on the quality of jobs, rendering the monitoring of developments in job quality a pressing issue in these turbulent times.

The European Job Quality Index (JQI) has been developed by ETUI researchers to assess and compare job quality across all EU countries (Leschke et al. 2008, 2012; Piasna 2017). The JQI encompasses a broad range of work and employment characteristics, summarising them within six dimensions of job quality. The results can be presented as a synthetic measure of overall job quality, as well as broken down by the six dimensions of the Index or even into the single items (or sub-dimensions) making up each one.

The objective of the Index is to offer a tool for comparing the quality of jobs held by workers across EU countries and analysing trends in job quality over time. It takes a clear stance with respect to what constitutes a good quality job and what direction of change indicates improvement. This assessment is based on the wealth of previous research that has investigated the links between work and employment conditions, on the one hand; and health, wellbeing and the productivity of workers on the other (Quinlan et al. 2001; Burchell et al. 2002; Benach and Muntaner 2007; Gallie 2013). While the Index can be applied in research examining the reasons for divergent outcomes or the drivers of cross-national differences in job

quality, it does not by itself provide explanations for why countries rank low or high on its dimensions.

This Working Paper is structured as follows. Section 2 explains how the European Job Quality Index is constructed, including a description of its dimensions, the data used and the method of calculation of the scores. Section 3 summarises the most recent results of the JQI for 2021, first by providing an overview of changes in the overall Index and then for each of its dimensions separately. The results are analysed by country and by gender. Section 4 is dedicated to an analysis of changes in job quality across the EU over time and shows how the ranking of countries on the various dimensions of job quality has changed since 2005 (although not all dimensions have sufficient data to allow that much retrospective analysis). Section 5 explores the relationship between job quality and job quantity, focusing on employment rates and the prevalence of solo self-employment. Section 6 then investigates the association between collective interest representation and other dimensions of job quality. Finally, in the last empirical Section 7, the distribution of various aspects of job quality across the workforce is explored, revealing that a large portion of inequalities is linked to sectoral and occupational segregation as well as company size. Section 8 concludes with a summary of the results and some policy implications.

2. Construction of the European Job Quality Index

The European Job Quality Index (JQI) is a multidimensional measure of the quality of jobs and is calculated for all 27 EU Member States. Workers and their wellbeing are the core of the Index's construction; thus it focuses on aspects of jobs that have been demonstrated to be conducive to their health and safety, work-life balance and psychological and economic wellbeing (Quinlan et al. 2001; Burchell et al. 2002; Benach and Muntaner 2007; Muñoz de Bustillo et al. 2011). Moreover, the Index takes jobs as an object of analysis. Thus, only job characteristics in terms of work and employment conditions are considered here. This implies that other features of labour markets and employment systems, such as institutions or policies, are not part of this job quality measure (for a discussion see Burchell et al. 2014). These features may have an impact on the quality of jobs created or provide various means to challenge those aspects of jobs which are of poor quality, which would be reflected in the share of poor quality jobs at country level; nonetheless they do not represent a job characteristic in itself.

The Job Quality Index takes a broad perspective on the characteristics of work and assesses jobs on six dimensions: (1) income quality; (2) forms of employment and job security; (3) working time and work-life balance; (4) working conditions; (5) skills and career development; and (6) collective interest representation and voice. Each of these dimensions then contributes equally to the overall JQI. These six main dimensions, in turn, are comprised of a large number of individual indicators derived from the European Working Conditions Survey (EWCS; in 2021 called the EWCTS), the EU Labour Force Survey (LFS) and the database on the Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS). The analysis uses the post-stratification and cross-national weights provided in the EWCS/EWCTS dataset. In the computation of EU averages, countries are weighted according to their population sizes (with the exception of the simple averages used for the EU27 in the ICTWSS data).

This iteration of the JQI, updated with 2021 data, has undergone some modifications with respect to its previous iterations (Leschke et al. 2008, 2012; Piasna 2017). This was required in view of the substantial changes to the main data source used in the construction of the index. The EWCS did not take place as planned in 2020, being postponed by one year due to the pandemic, while it also moved from face-to-face to telephone interviewing and, most importantly, its questionnaire was drastically modified (the name of the survey was also altered to EWCTS, likely to mark the radical departure from the previous waves of the EWCS). Many of the EWCS questions used to construct the JQI were not asked at all in 2021, while many of those that were asked had different response categories

than before. The EU-LFS has also seen some modifications in recent years, notably in the way it measures involuntary non-standard employment. All these changes make comparisons of job quality over time extremely challenging (this is elaborated further in Section 4), as well as necessitating some modifications to the content of the JQI. Care was taken, however, to ensure as much consistency with the original Index as possible and all six dimensions of the index have been preserved.

Table 1 below lists all the dimensions of the JQI and the items used to calculate each dimension, together with their source and the weighting of the components within each dimension. Importantly, all dimensions and sub-dimensions are measured in such a way that higher values always indicate better job quality. Thus, some of the measures are reversed, such as work intensity or unsocial hours of work, and the final Index shows, respectively, the incidence of non-intense work and the absence of work during unsocial hours. All dimensions are expressed on a 0-100 scale: this either corresponds to a percentage (that is, the share of workers reporting a certain work characteristic) or to a score derived from the categorical response options. In the latter case, a response representing the worst outcome was assigned a value of 0, and the best outcome one of 100, with the remaining responses equally spread out between 0 and 100.

The first dimension of the Index is income quality (JQI.1). While the focus on income is retained, this dimension has been completely revised for 2021 due to the question on income level not being included in the EWCTS. Instead, income quality in 2021 measures the predictability of earnings; thus, the ability of respondents to estimate how much they are going to earn in the nearest future as well as a subjective evaluation of the adequacy of earnings for making ends meet.

The quality of forms of employment and job security (JQI.2) is measured by the share of workers who have temporary jobs because they cannot find permanent work and the share of part-time workers who cannot find full-time jobs. Therefore, only non-standard work that is reported as involuntary is included as an indication of poor job quality. Moreover, a subjective aspect is added to this dimension by including a measure of the self-perceived chances of losing one's job in the next six months.

The quality of working time and work-life balance (JQI.3) has not changed compared to earlier iterations and includes information on three aspects of working time: long hours; unsocial hours; and the fit with non-work activities. First, the share of workers with excessively long working hours is defined as those working more than 48 per week. Second, unsocial hours include shift work, Saturday work, Sunday work and work at night and in the evening. Finally, the extent to which working hours fit with family or social commitments is included as a measure of work-life balance.

The quality of working conditions (JQI.4) is the most complex dimension of the Job Quality Index in that it takes into account the largest number of variables (it is calculated based on a total of fourteen items from the EWCS/EWCTS questionnaire) describing how and in what environment work is performed. It

is composed of three sub-dimensions each contributing equally to the overall score: work intensity; work autonomy; and physical risk factors. While these three dimensions are the same as in previous years, many of the items that compose them have needed to be modified; notably, the number of physical risk factors has been cut by nearly half (from 13 to 7).[1] Values have been inverted where appropriate so that, for each dimension, a higher score corresponds to a better quality of work: a lower risk of work intensification, higher autonomy and lower exposure to physical risk factors.

The skills and career development (JQI.5) dimension is composed of two elements. One records the share of the adult population (aged 25-64) that had participated in education or training in the four weeks preceding the survey. The second element captures the extent to which workers agree with the statement 'My job offers good prospects for career advancement'. For the sake of continuity with the previous iterations of the JQI for 2005, 2010 and 2015 (Leschke et al. 2008, 2012; Piasna 2017), the two items do not contribute equally to this dimension (see the discussion on weighting and alternative specifications in Leschke et al. 2012).

Finally, the last dimension of the index is collective interest representation and voice (JQI.6), which is restricted to employees. A sense of 'voice' by workers and the representation of their collective interests are an important feature of a job and constitute vital aspects of intrinsic job quality, empowering workers vis-à-vis employers. They are also known to have a positive impact on workers' job satisfaction and wellbeing in the workplace. It is, however, difficult to operationalise and measure these things with the available data. This dimension therefore comprises three concepts that are deemed the best available approximation of a sense of collective interest representation at job level, in view of the main analysis being carried out at country level. The first is information about the proportion of workers whose pay and conditions are covered by collective bargaining, which has been shown to have various beneficial outcomes for workers (ILO 2004). The second is trade union density at country level, measured by the trade union membership rate among employees. The third concept is derived from individual-level data from the EWCS/EWCTS and captures access to employee representation and voice mechanisms at company level, such as the presence of a trade union or works council and health and safety representatives, as well as the extent to which management holds regular meetings with employees where they can express their views.

1. This change has some impact on the gender gap, as discussed later, as well as on the country rankings. For instance, comparing results for 2015, a narrow Index based on seven items results in a relatively better score for Portugal and Sweden compared to the full Index with 13.

Table 1 **Dimensions of the European Job Quality Index (JQI) and their indicators, 2005-2021**

Dimension	Sub-dimensions and their indicators	Data source	Weighting within dimension
JQI.1 Income quality	Income predictability (an ability to tell in advance one's earnings in the next 3 months)	EWCTS (2021)	1/2
	Income sufficiency (being able to make ends meet; household-level concept)	EWCTS (2021)	1/2
JQI.2 Forms of employment and job security	Involuntary temporary employment (workers with temporary contracts for reasons other than education or training, not wanting a permanent job or being on probation, expressed as a share of all employees) (reversed)	EU-LFS	1/3
	Involuntary part-time employment (part-time employment as a share of the total number of employees multiplied by the share of part-timers indicating the main reason was that they could not find a full-time job) (reversed)	EU-LFS	1/3
	Job security ('I might lose my job in the next six months') (reversed)	EWCS/EWCTS	1/3
JQI.3 Working time and work-life balance	Share of workers working more than 48 hours a week (reversed)	EWCS/EWCTS	1/3
	Average share of workers on shift work; Saturday work; Sunday work; night work; and evening work (reversed, i.e. the share of workers who never work unsocial hours averaged across five types of unsocial hours)	EU-LFS	1/3
	'Working hours fit with family/social commitments'	EWCS/EWCTS	1/3
JQI.4 Working conditions	Work intensity (working at a very high speed;* working to tight deadlines;* and working in your free time to meet work demands) (reversed)	EWCS/EWCTS (2010, 2015, 2021)	1/3
	Work autonomy (can choose/change order of tasks,* methods of work* and speed of work;* can take an hour or two off for personal reasons)	EWCS/EWCTS (2010, 2015, 2021)	1/3
	Physical risk factors (exposure at work to noise; handling chemical substances; infectious materials; tiring or painful positions; lifting or moving people; carrying or moving heavy loads; repetitive hand or arm movements)* (reversed)	EWCS/EWCTS (2010, 2015, 2021)	1/3
JQI.5 Skills and career development	Share of population (25-64 years) participating in education/training in the four weeks prior to survey	EU-LFS	3/5
	'My job offers good prospects for career advancement'	EWCS/EWCTS	2/5
JQI.6 Collective interest representation and voice**	Collective bargaining coverage (adjusted, no gender breakdown)	ICTWSS database (2015 and 2021***)	1/3
	Trade union density (no gender breakdown)	ICTWSS database (2015 and 2021***)	1/3

Dimension	Sub-dimensions and their indicators	Data source	Weighting within dimension
	Employee representation in the company/ organisation (trade union or works council; health and safety representative; regular meetings between management and employees)	EWCS/EWCTS (2015 and 2021)	1/3

Notes: All dimensions and sub-dimensions are calculated for 2005, 2010, 2015 and 2021, unless otherwise indicated in the column 'Data source'.

* Response categories changed in 2021 EWCTS compared to previous EWCS waves (2005-2015).

** This sub-dimension is only calculated for employees.

*** ICTWSS: the nearest available year is used where 2015 and 2021 data are not available.

3. Job quality of European workers in 2021

This section provides an overview of the most recent 2021 values of the European Job Quality Index, both at aggregate EU27 level as well as for individual Member States. In the first part, EU averages are presented for the overall Index as well as for its six main dimensions. While each of the dimensions has been computed on a 0-100 scale, they nonetheless differ in terms of the spread and density of scores. This is because they comprise a different number of items which also vary in the quantity of response options. Thus, to render the comparison between the dimensions and the gender gaps in them as meaningful as possible, for the purpose of this part of the analysis the scores on each dimension have been normalised.[2] As a result, the distances between extreme scores at country level become the same for each dimension.

In the second part of this section, the values of the overall JQI are presented for each EU country, followed by a cross-country analysis of each of the JQI's sub-dimensions separately. All these results are presented with a gender breakdown and show the actual, non-normalised scores of each dimension. Such a focused analysis allows the exploration of cross-country differences in levels of job quality as well as the disentangling of various patterns of gender inequality found across EU countries. The analysis reveals that average levels of job quality usually hide a considerable variation in profiles and trade-offs with regard to particular dimensions of job quality between countries and between men and women.

Figure 1 presents gender differences in average levels of job quality reported in 2021 by EU workers. The overall JQI shows little variation by gender, with women slightly outperforming men. However, there are some notable trade-offs between dimensions. Women achieve better outcomes compared to men on only two sub-dimensions of the Index: income quality (JQI.1); and working time quality and work-life balance (JQI.3). Importantly, income quality does not measure the level of earnings, instead reflecting the adequacy of income and its predictability, and it has a strong subjective component. It is thus interesting that women who, on average, continue to earn less then men in the EU, regardless of differences in personal characteristics and work settings (EIGE 2021; European Commission 2022), nonetheless are more often able to foresee the amount they will earn in the nearest future and feel more confident in being able to make ends meet at the end of the month. In contrast, better outcomes among women in terms of working time

2. The following formula was used for the normalisation of scores, applied to the country level averages on each dimension: [(x-Min)/(Max-Min)]*100.

quality and work-life balance are in line with expectations and previous findings (Franklin et al. 2022). This is mainly related to their overall shorter working hours compared to men, which translates into a lower incidence of working very long hours (above 48 per week) and during unsocial hours – two of the components of the working time quality (JQI.3) measure. Women are also somewhat more likely than men to report a good fit between their working hours and other commitments outside of paid employment.

Men, according to the JQI, have better outcomes on three dimensions of job quality: forms of employment and job security (JQI.2); working conditions (JQI.4); and skills and career development (JQI.5). Men are, on average, less likely than women to work in non-standard employment arrangements, such as temporary and part-time jobs. Men are also, compared to women, less often trapped in temporary jobs because they cannot find a permanent position. The case of involuntary part-time work is more complicated as women's choices in this respect tend to be constrained by care obligations. For this reason, involuntary part-time work among women risks being underestimated or underreported in general since respondents who declare that they work part-time because they look after children, incapacitated adults or due to other family responsibilities are not included in the involuntary part-time work category. Interestingly, women are somewhat more likely to perceive their jobs as secure compared to men, which reduces the overall gender gap in this dimension of the JQI. In turn, the better quality of working conditions reported by men is rather surprising, especially in view of earlier results revealing their greater exposure to physical risk factors. This is in part explained by the narrower list of physical risk factors measured in the 2021 EWCTS compared to previous waves, with a focus on risks that are common in female dominated healthcare and clerical occupations.[3] Women, however, have lower autonomy at work and less control over the organisation of their work. In terms of skills and career progression, there is very little gender difference at EU level in participation rates in education and training, with a slight advantage for women, but the latter assess their career prospects more negatively than men.

Finally, there is no gender difference observed in collective interest representation (JQI.6). This is perhaps unsurprising as this dimension of the Job Quality Index is mostly composed of indicators which do not have a gender breakdown. Only one of its components – employee representation at company level – could be calculated separately for men and women, but this shows no gender difference at EU level.

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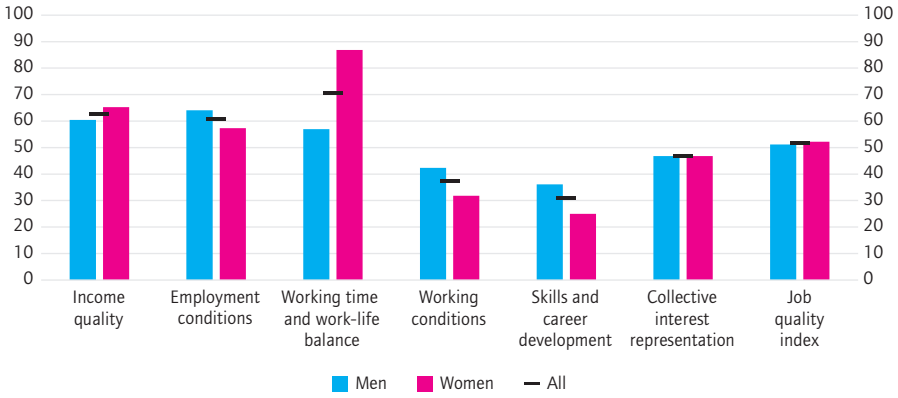
3. A comparison of physical risk factors in the narrow version (seven items, as in the 2021 Index) with the full version (13 items, as in the 2015 Index) is possible on the basis of the 2015 EWCS data. This reveals that, indeed, women show only a slight advantage over men on the narrow Index (1.9 on a 0-100 scale) but a greater advantage on the full one (5.2). Nonetheless, the 2015 data show a strong correlation between these two versions of the Index across occupations (2-digit ISCO), with Pearson r=0.956.

Figure 1 **Job Quality Index in 2021, by sub-dimensions and by gender, EU27**

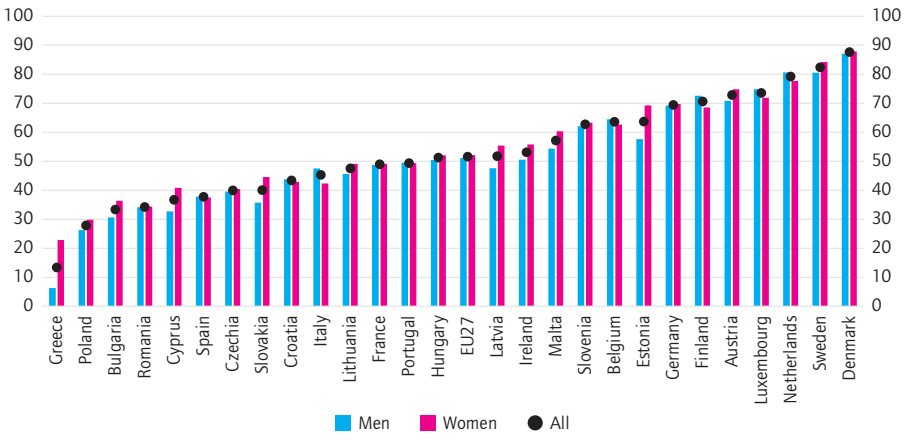


Note: For the purpose of calculating the overall Job Quality Index, all sub-dimensions have been normalised.

The average experience of job quality at EU level hides huge variation across the Member States. As illustrated in Figure 2, overall job quality is by far the lowest in Greece, followed by Poland, Bulgaria and Romania. Countries with overall job quality below the EU average are mostly located in central, eastern and southern Europe, testifying to persistent regional divides within Europe. On the other hand, Denmark, Sweden and the Netherlands note the best job quality outcomes.

The size and direction of the gender gap in the overall Job Quality Index also differs substantially between countries. In only eight EU countries do women score lower on the overall Job Quality Index than men. The most pronounced advantage to women is noted in Greece, Estonia, Slovakia and Cyprus, while the gap in favour of men is most prominent in Italy, Finland, Luxembourg and the Netherlands. The gender difference is smallest in Romania and Portugal.

Figure 2 **Overall JQI in 2021, by country and gender**



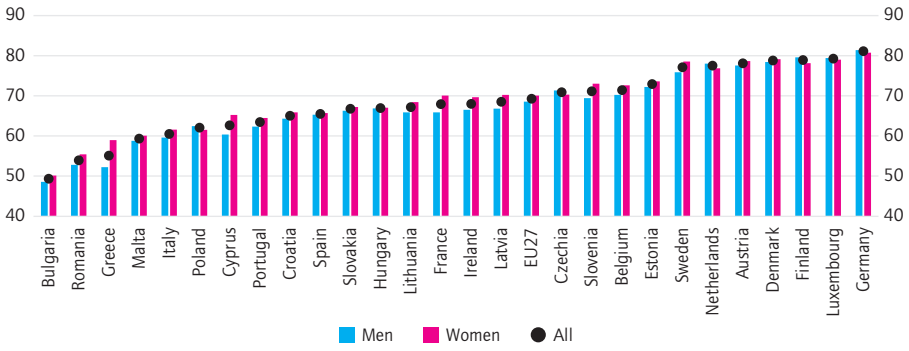
Turning to an analysis of the particular dimensions of the Job Quality Index across countries, we no longer use normalised scores. Instead, the values are directly interpretable with the maximum score of 100 meaning all jobs in a given country

are of the best quality on all measured aspects. None of the EU Member States achieves this top score, but the top performers approach this value at least on some dimensions of job quality.

Figure 3 shows the results for income quality (JQI.1), revealing considerable variation across the EU. In Bulgaria, the adequacy and predictability of earnings are by far the worst in the EU, followed by Romania and Greece. The middle performers, below or close to the EU average, tend to be central, eastern and southern European countries. Notable exceptions are France and Ireland, which have income quality below the EU average. The top performing group of countries comprises the Nordics as well as Germany, Luxembourg, Austria and the Netherlands. Overall then, a measure of income quality which departs from nominal or real compensation in fact reproduces the notorious EU division into low, middle and high income countries (Müller et al. 2023).

However, gender differences in terms of income quality are mostly in the opposite direction to the gender wage gaps, with women reporting worse outcomes than men in only six EU countries. Interestingly, these are mostly countries with the best income quality scores. The gender gaps in favour of women are most visible in Greece, Cyprus and France while the widest gaps in favour of men are found in Finland and the Netherlands.

Figure 3 **Income quality (JQI.1) in 2021, by country and gender**

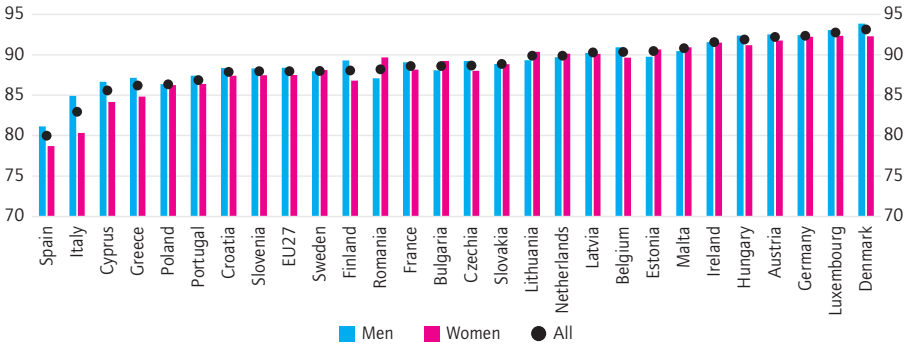


The quality of forms of employment and job security (JQI.2) shows relatively less variation across the EU, as shown in Figure 4. However, Spain and Italy clearly stand out among other countries with the worst outcomes on this dimension of job quality. Cyprus, Greece, Poland and Portugal also note below average performances. On the other hand, Denmark, Luxembourg, Germany and Austria achieve outcomes visibly above the EU average.

In the vast majority of countries, men report better outcomes on this dimension compared to women, with the widest gender gaps being found in Italy, Cyprus and Finland. On the other hand, gender gaps in favour of women are most visible in Romania, Bulgaria and Lithuania. Overall, central and eastern European countries achieve more gender equal outcomes on this dimension; this is related to a full-time working model with the mothers of young children either exiting the labour

market completely or combining full-time paid work with care obligations often with the help of relatives (Piasna and Plagnol 2018).

Figure 4 **Forms of employment and job security (JQI.2) in 2021, by country and gender**



Working time and work-life balance (JQI.3) measures not only the extent to which work spills over beyond 'standard' hours (i.e. daytime and weekday work) but also provides a subjective assessment of work-life fit. This is likely to be influenced by national regulation, for instance on the extent of Sunday work, as well as cultural and gender norms.

Greece has been an outlier in terms of very low working time quality (Eurofound 2012; Piasna 2017) and these 2021 results are no exception (Figure 5). It is followed by Poland and Romania. Overall, working time quality is lower in southern European countries, where work tends to extend into late evening hours, and in most central and eastern European countries, known for the weak enforcement of working time regulation including payment for overtime.[4] In this respect, the relatively low position of the Netherlands might be surprising, given the high incidence of part-time jobs, as well as Finland. Spain, on the other hand, scores above the EU average which could, at least in part, be related to regulatory efforts towards better quality of working time, and policies of working time reduction, gaining ground in recent years. Countries with the best quality of working time are Sweden, Denmark and Germany.

In general, women tend to work to different schedules than men, predominantly as a result of the unequal division of household and care work. This is manifest in a gender gap in working time quality in favour of women being found in all EU

4. To account for potential differences across countries in the desirability of work in the evening, which might be related to hotter temperatures during the day, the effect of excluding this measure from the sub-dimension of unsocial hours was tested. Interestingly, excluding evening work did not considerably alter the ranking of countries on the measure of unsocial hours: the bottom of the table is occupied in both cases by the Netherlands, Romania, Greece and Croatia, with some variation in their order, while the top five performers are ranked in the same order in both rankings (i.e. Lithuania, Germany, Latvia, Sweden and France). However, excluding evening work somewhat improves the relative position of Portugal, Cyprus, Italy and Austria.

countries. This gap is widest in Greece, Slovakia and Czechia and, in general, in countries with lower levels of working time quality.

Figure 5 **Working time and work-life balance (JQI.3) in 2021, by country and gender**

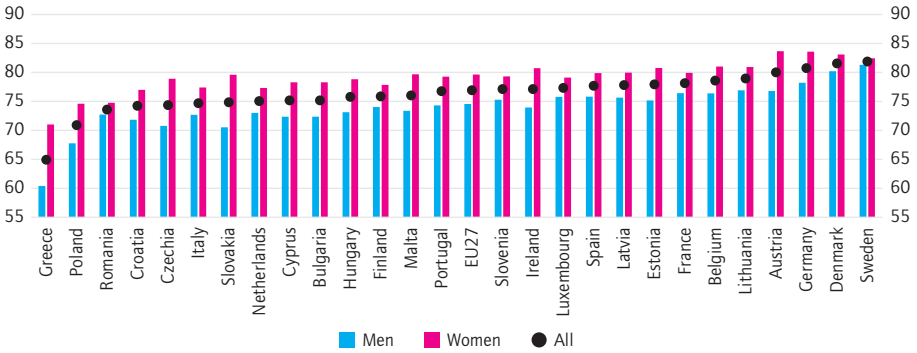
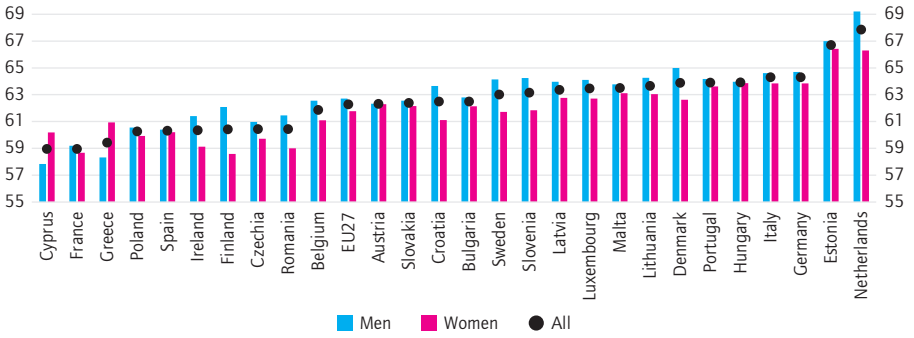


Figure 6 illustrates a considerable variation in the quality of working conditions (JQI.4) across EU countries. What is notable, however, is that, in contrast to most of the other dimensions of the Job Quality Index, in this case there is no apparent regional clustering of countries along the lines of employment or welfare state regime. This might be related to this dimension being an average outcome of three work characteristics which are quite diverse – work intensity (reversed), work autonomy and physical risk factors (reversed) – which do not necessarily go in the same direction at country level, thus resulting in trade-offs producing an unusual country ranking. Thus, Cyprus and France have the worst quality of working conditions, while the Netherlands and Estonia have by far the best, followed by Germany and Italy.

In view of this unusual grouping of countries, it is interesting to look separately also at each sub-dimension of the working conditions measure (see Table A2 in the Annex). For instance, the low position of France is largely driven by a poor quality of the physical work environment and that of Finland by high work intensity. In Estonia, poor quality in terms of physical risk factors is offset by low work intensity and high work autonomy while in Italy, despite a good score on the overall quality of working conditions, work intensity is relatively high.

As noted earlier, women tend to work in jobs with worse working conditions than men, and this pattern is reproduced at country level with the notable exceptions of Cyprus and Greece. The gender gap is widest in Finland, the Netherlands and Croatia while it is close to zero in Austria and Hungary. These gender differences are mainly driven by lower work autonomy being reported by women. In contrast, physical working environments are of better quality among women in 14 EU countries.

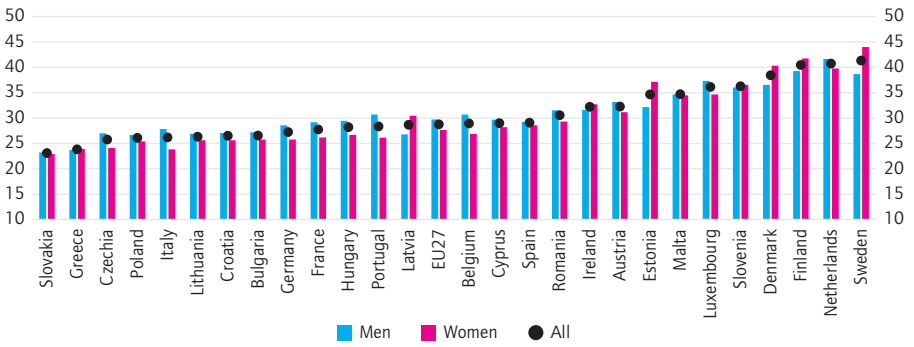
Figure 6 **Working conditions (JQI.4) in 2021, by country and gender**



The results for skills and career development (JQI.5) are shown in Figure 7. What first strikes when analysing the results is that EU countries score relatively lowly on this dimension. On a scale from 0 to 100, most countries score between 20 and 35. This means that, on average, fewer than one in three workers in the EU had participated in any training in the previous month and/or considered their job to offer good prospects for career development. Moreover, there is considerable divergence between EU countries and this dimension reproduces a strong regional pattern. The worst outcomes are noted in Slovakia and Greece, followed by six other eastern and southern European countries, while the three Nordic countries – Denmark, Sweden and Finland – and the Netherlands have the best scores. Germany is placed below the EU average which might be due to its highly-developed formal vocational training and apprentice system placing more emphasis on schools as places of skill formation (see also Tahlin 2007), lending a lesser role to workplaces and continuing learning.

In most countries, the gender gap in favour of men is reproduced, with the biggest disadvantage to women being found in Portugal, Italy and Belgium. On the other hand, in Sweden, Estonia, Latvia and Denmark, thus in the Baltic region, women have better access to skills and career development.

Figure 7 **Skills and career development (JQI.5) in 2021, by country and gender**

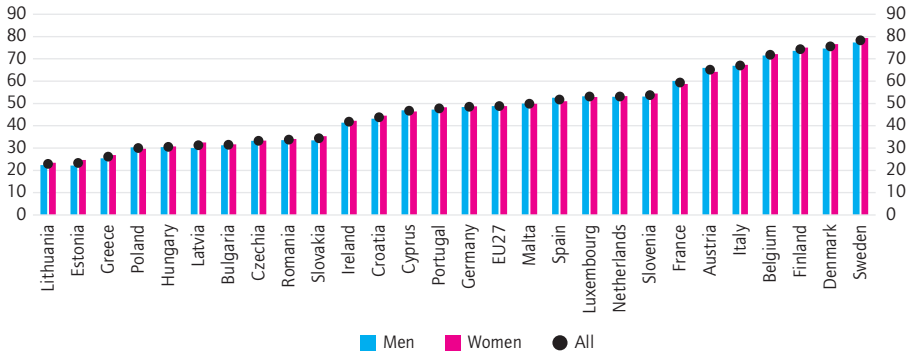


The sixth and final dimension of the Job Quality Index measures collective interest representation and voice (JQI.6) and is restricted to European employees. As shown in Figure 8, the ranking of countries clearly follows the welfare state regime typology. In general, post-transition economies rank at the bottom, continental and Mediterranean countries are placed in the middle and Nordic countries achieve the highest scores.

This dimension complements information about formal trade union coverage and membership with several measures of workplace-level mechanisms of employee participation and voice. It is thus interesting to note that these additional measures do not substantially alter the ranking of countries, suggesting there is a correlation between these forms of representation and participation.

Gender gaps are almost non-existent on this dimension but this is due to two out of the three items which compose this dimension not having a gender breakdown. The third item, workplace-level mechanisms of employee participation and voice, however, shows considerable gender differences across countries. On the one hand, in seven EU countries women report worse outcomes on this dimension, with the gender gap being widest in Austria, Spain and France. On the other hand, the gender gap is in favour of women in 20 countries, with the biggest differences being in Estonia, Latvia and Sweden.

Figure 8 **Collective interest representation (JQI.6) in 2021, by country and gender**



4. Trends in job quality, 2005-2021

This section presents the changes in the European Job Quality Index up to and including 2021. By that time, the pandemic had already had a profound impact on labour markets across Europe, although the multiple crises were still unfolding with the cost of living crisis and the energy crisis only starting to make a dent in working and living conditions. It thus provides only a snapshot of a dynamic picture, yet one taken at an important point in time. The JQI relies in a large part on data from the European Working Conditions Survey, which imposes a granularity of the available time series of the Index to about five-year intervals. Thus, most of the dimensions of the Index can be compared based on four points in time: 2005, 2010, 2015 and 2021. However, important changes to the methodology of data collection and alterations to the questionnaire in the most recent wave of the survey (see Eurofound 2022) severely constrain the comparability of the results over time. Many of the survey items used to construct the previous editions of the Index were not available in 2021.

To address these limitations, the following strategy has been adopted in this section for time comparisons. First, all values for previous years have been recalculated to match the information available in 2021. Thus, the country rankings presented below might not match the results presented in the previous report providing the 2015 update (Piasna 2017) but it does mean that the time comparisons are based on the same measures of job quality. Second, critical changes in the method of data collection and changes to response options, even where the questions in the survey are the same, render a direct comparison of the values of the Index over time highly problematic. To remedy this, the results are presented in a form of country ranking on each dimension, with such rankings being compared over time. While this does not tell whether the overall level of job quality has changed over time, it does provide a league table of EU countries on each dimension of job quality, illustrating the relative evolution of various job quality aspects. Finally, only dimensions 2-6, thus excluding income quality (JQI.1), are analysed as previous editions of the Index measured wage levels and this information is not available in the 2021 survey. This also implies that the overall JQI cannot be compared over time, only its separate dimensions.

In what follows, two sets of time comparisons are presented for each of the dimensions of the JQI (excluding income quality), all of them presenting changes in country rankings. First, the change between the two most recent values, thus between 2015 and 2021. Second, the change between the furthest available time point in the past (i.e. 2005 for JQI.2, JQI.3 and JQI.5; and 2010 for JQI.4) and

2021 is shown. Due to data availability, for the collective interest representation dimension (JQI.6) only a 2015-2021 comparison is presented.

Looking first at the quality of forms of employment and job security (JQI.2), Figure 9 shows relative stability among the top and bottom performers in 2015 and in 2021. Denmark, Luxembourg, Germany, Austria, Hungary and Ireland have retained their top positions in both years while Spain, Italy, Cyprus and Greece have persisted at the bottom of the ranking. Several countries have succeeded in improving their relative positions, notably Croatia, Slovakia, the Netherlands and Latvia. The most pronounced declines are noted in Poland and Romania.

Over the longer time period between 2005 and 2021, as shown in Figure 10, country ranks have changed more substantially. Notable exceptions are Denmark which has topped the ranking for each year that the Index is computed, as well as Spain, Italy and Greece which have persistently the worst scores. Luxembourg and Germany have made remarkable leaps upwards, as has Lithuania, while Czechia, France, Finland, Poland and Cyprus have fallen the most in the ranking in this period.

When looking only at the measure of job security, which was asked in the same way in all waves of the EWCS/EWCTS (although the method of data collection has changed), then we observe a decline in job security in 2010 compared to 2005, followed by a gradual improvement. There was a small improvement between 2015 and 2021 at EU27 level, as well as in no fewer than 21 countries with a decline noted in just six.

Turning to working time quality and work-life balance (JQI.3), a much more dynamic picture emerges. As shown in Figure 11, Sweden has persisted at the top and Poland at the bottom of the ranking in 2015 and in 2021. A large relative deterioration is noted in Romania and Greece, both falling to the bottom ranks, as well as in Malta, Bulgaria and Cyprus. On the other hand, Latvia and Belgium have substantially climbed the ranking.

In the longer time horizon, however, comparing 2005 and 2021 (Figure 12), there is greater continuity in the best performing countries with Sweden, Denmark, Germany and Austria achieving the best outcomes. There is also some continuity at the bottom of the ranking, with Poland and Greece emerging as countries with a consistently worse quality of working time and work-life balance.

Considering only unsocial hours, which has been measured consistently over time, a moderately optimistic picture emerges with a continuous improvement in this respect over each subsequent JQI iteration between 2005 and 2021.

Figure 9 **Forms of employment and job security (JQI.2), change in country ranking 2015-2021**

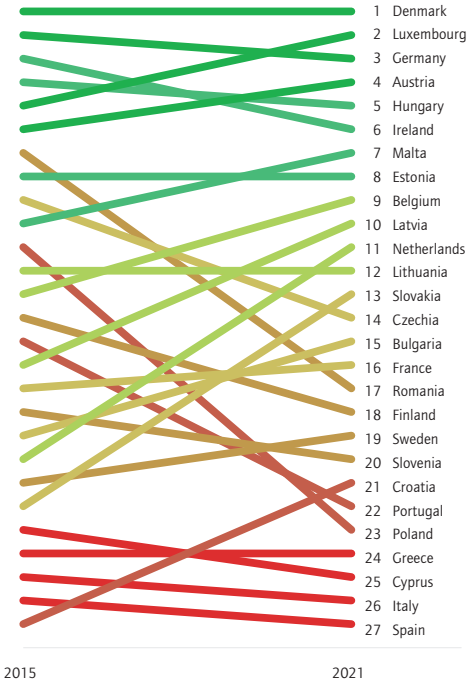


Figure 10 **Forms of employment and job security (JQI.2), change in country ranking 2005-2021**

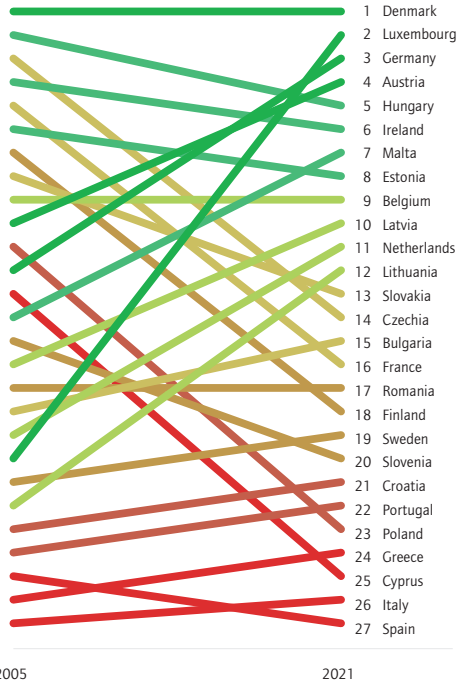


Figure 11 **Working time and work-life balance (JQI.3), change in country ranking 2015-2021**

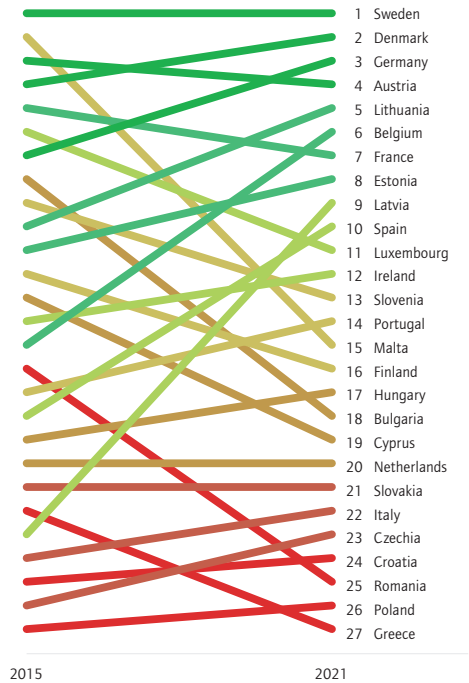


Figure 12 **Working time and work-life balance (JQI.3), change in country ranking 2005-2021**

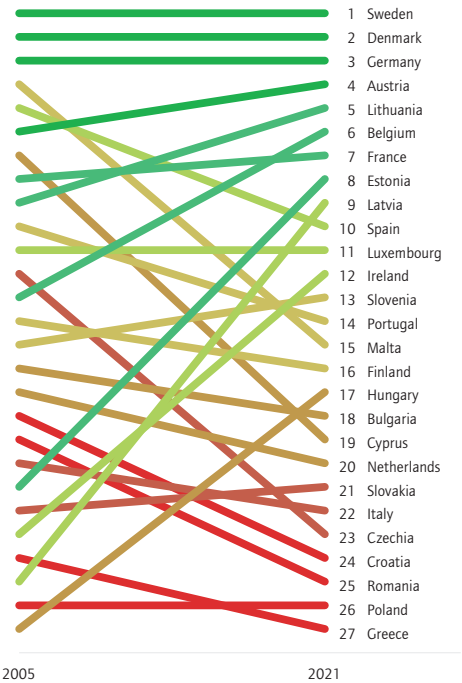


Figure 13 **Working conditions (JQI.4), change in country ranking 2015-2021**

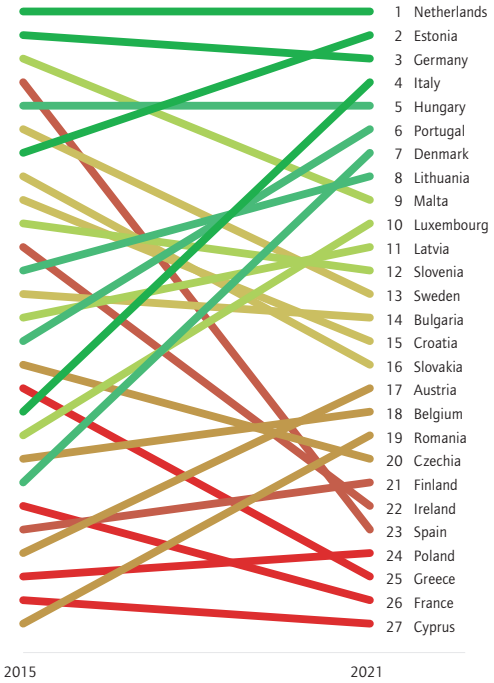


Figure 14 **Working conditions (JQI.4), change in country ranking 2010-2021**

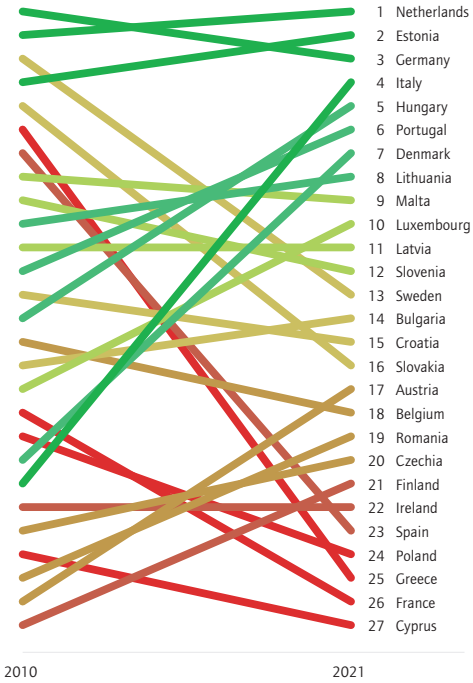


Figure 13 illustrates the recent changes in country ranking based on the quality of working conditions (JQI.4). The Netherlands, Germany and Hungary have preserved their high ranks while Cyprus has remained at the opposite end of the table. Remarkable improvements in relative positions are noted for Italy and Denmark, which have progressed from the bottom half to the top of the ranking, while Austria and Romania have moved significantly away from the bottom. In contrast Spain, Greece and France have fallen into the worst performing group.

In a longer time perspective, as shown in Figure 14, three countries – the Netherlands, Estonia and Germany – emerge as relatively consistent champions of the quality of working conditions while Cyprus confirms its relatively poor performance. The biggest improvements over time are noted in Italy, Denmark and Austria, while Spain and Greece have experienced a steady decline in the quality of working conditions. Overall, there is some indication that the quality of working conditions declined in the EU27 in the years between the 2015 and 2021 surveys after a period of relative stability following 2010.

Skills and career progression (JQI.5) has been at a consistently high level in Sweden and the Netherlands, with Denmark and Finland catching up between 2015 and 2021 (Figure 15). Slovakia and Czechia are the worst performers in this respect while in 2021 Greece levelled downwards to the bottom of the ranking. Finland and Ireland have climbed the most in this period while Portugal, Hungary and Italy have all declined.

In the longer time perspective, between 2005 and 2021 (Figure 16), Sweden and the Netherlands emerge as clear leaders in terms of the quality of skills development and career progression while Greece, Slovakia, Czechia and Poland do not manage to break out of the bottom ranks. The biggest relative progress is noted for Austria while the rankings of Hungary and Bulgaria have fallen the most.

Figure 15 **Skills and career development (JQI.5), change in country ranking 2015-2021**

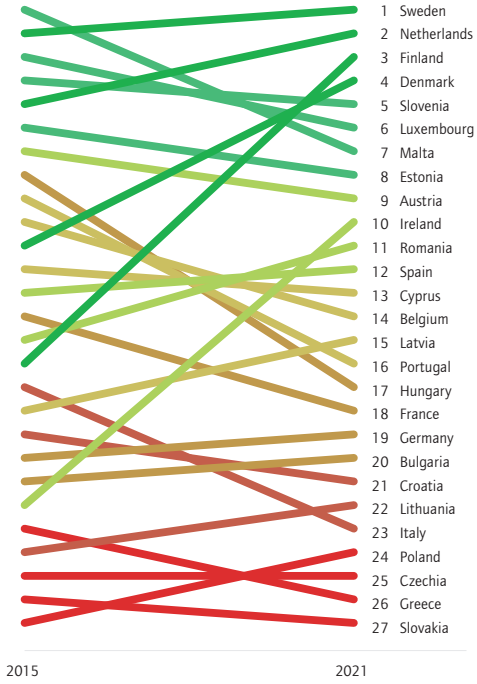
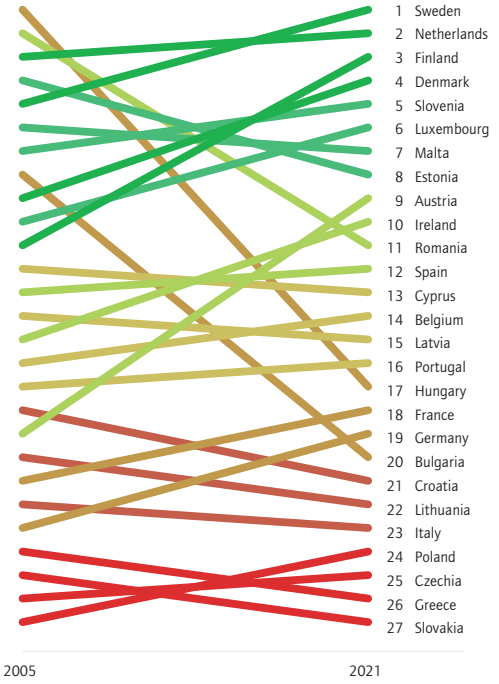
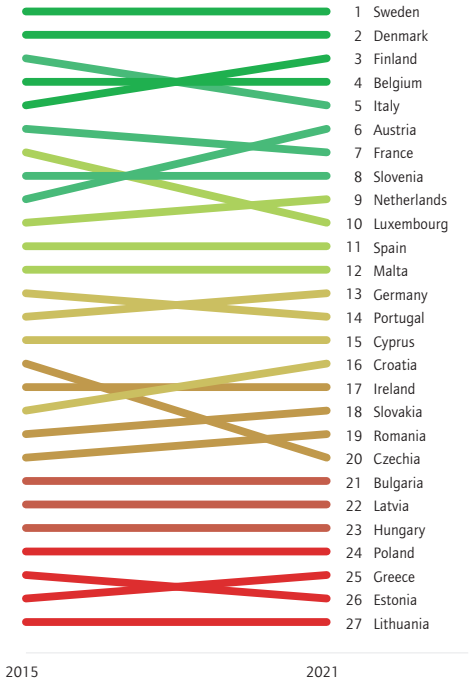


Figure 16 **Skills and career development (JQI.5), change in country ranking 2005-2021**



Finally, collective interest representation (JQI.6), which can only be compared over the two most recent surveys, in 2015 and 2021, shows remarkable stability in the ranking of countries (Figure 17). This is not surprising given the institutional character of this measure, reflecting systems of industrial relations and workplace democracy. Nevertheless, Austria and Finland have improved their relative positions while Luxembourg and Czechia have declined the most in relative terms.

Figure 17 **Collective interest representation (JQI.6), change in country ranking 2015-2021**

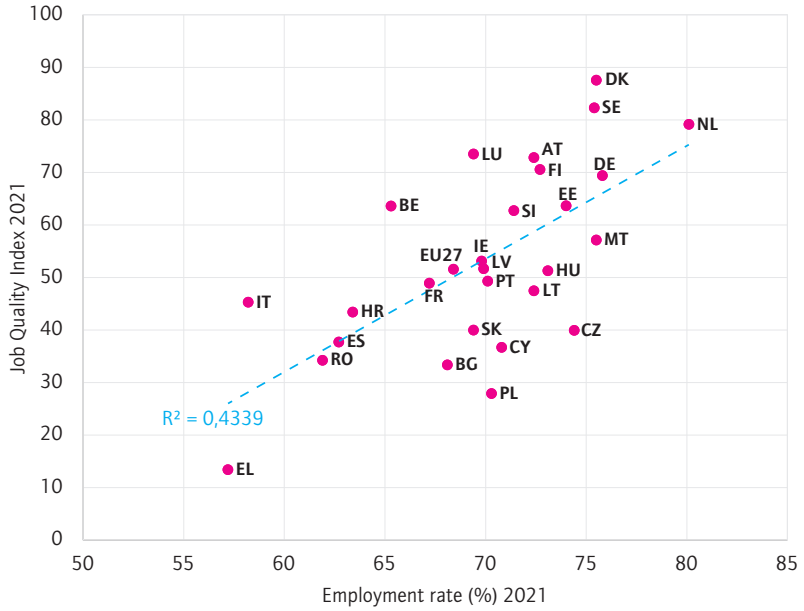


5. Job quality and job quantity

The idea of a synergy between 'more and better' jobs was explicitly formulated on the EU policy agenda over two decades ago yet over this period it has constantly come under pressure, especially in times of economic downturn and from the ongoing structural transitions in the world of work (see discussion in Eurofound 2015, 2021; Piasna and Myant 2017). Some policies with the potential to improve the quality of work, such as raising minimum wages, placing limits on the use of non-standard contracts and reducing working time, tend to have been shelved as 'higher order' needs that first require a certain level of economic performance or productivity growth. It thus remains an important empirical question to what extent there is indeed a synergy between 'more and better' jobs, and thus these two goals should be pursued in parallel for optimum outcomes.

To address this question, a comparison between the levels of overall job quality and employment levels across EU countries is presented in Figure 18. It clearly shows that, in countries where jobs are of better quality, participation in the labour market, as measured by the employment rate, is also higher. This association is quite strong, with the Job Quality Index scores explaining over 40 per cent of the variation in employment levels across EU Member States in 2021 (R sq. = 0.43). This supports the view that it is possible for advanced labour markets to perform well across both dimensions – quantity and quality – as there is no apparent trade-off between the number of people in employment and how good their jobs are.

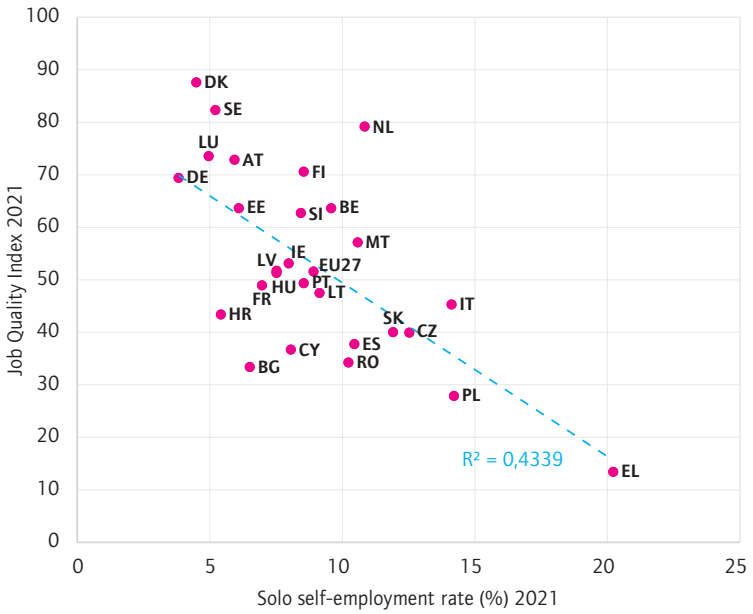
Figure 18 **Job quality and employment rate, 2021**



Note: Employment rate for 15-64 year olds (Eurostat, LFS).

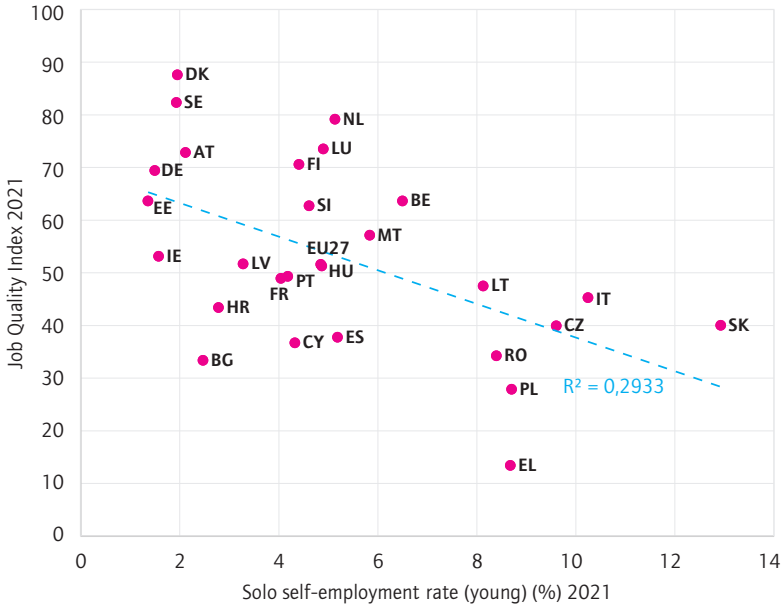
The quality of jobs available in the local labour market might also influence other employment outcomes. For instance, previous research has established that multiple job holding is largely a compensatory strategy for job quality deficits in primary employment (Wu et al. 2009; Dickey et al. 2011; Piasna et al. 2021). Poor quality jobs might then push workers to seek additional paid work, among others to compensate for insufficient hours, unstable income or job insecurity. The impacts of job quality might extend beyond that. Studies of the platform economy have demonstrated that poor quality jobs accessible in the conventional economy increase the chances of people turning to online gig work (Borchert et al. 2018; Huang et al. 2020; Zwysen and Piasna 2023). An analogous dynamic is explored below with respect to the relationship between job quality and the share of the solo self-employed. As shown in Figure 19, there is a strong and negative association between these two. In countries where jobs are of better quality, workers are less likely to turn to own-account work to make a living. The same pattern is observed when considering own-account work among young people aged 15-29 (Figure 20). While it is not possible to establish a causal link with the data presented here, nor the mechanisms at play, it is conceivable that, where the available jobs are of poor quality, workers might be discouraged from entering employment relations, instead striving to create their own places of work in the hope of better outcomes or, at least, higher autonomy and less subordination to a dreadful boss. On the other hand, solo self-employment is an atypical form of work with many poor job quality features. In countries with poor quality jobs overall, the disadvantages of own-account work might fade in comparison and be less of a deterrent.

Figure 19 **Job quality and own-account work, 2021**



Note: Solo self-employment rate for 15-64 year olds (Eurostat, LFS).

Figure 20 **Job quality and own-account work among young people (15-29 years old), 2021**



Note: Solo self-employment rate for 15-29 year olds (Eurostat, LFS).

6. Collective interest representation and other dimensions of job quality

Section 5 explored the synergies between the quality and the quantity of jobs. In this section, the link between the various aspects of job quality is analysed, with a focus on the relationship between collective interest representation and other dimensions of job quality. This is of particular interest as the ability of trade unions to exert a positive impact on working conditions has long been debated and, at times, challenged. While the results based on cross-sectional data cannot determine causal links nor explain mechanisms, they can nonetheless give a general indication of the direction and strength of this relationship across various aspects of job quality.

Consequently, the relationship between collective interest representation (JQI.6) and each of the other five dimensions of the Job Quality Index was analysed. For two dimensions, namely forms of employment and job security (JQI.2) and working conditions (JQI.4), no significant relationship is observed at country level in 2021. This might, at least in part, be related to a sectoral segregation of employment and to an economic structure that differs between the Member States. In contrast, the other three job quality dimensions all show a positive relationship with collective interest representation. Figure 21 illustrates this positive relationship for income quality (JQI.1) while Figure 22 does so for working time quality and work-life balance (JQI.3). In both cases, collective interest representation accounts for about a quarter of the variation in job quality scores on these dimensions at country level. A positive relationship is actually the strongest in respect of skills and career development (JQI.5), as shown in Figure 23. Collective interest representation explains around one-third of the variation in national scores on this dimension. Thus, overall, in countries with more developed systems of collective employee representation, workers have access to better quality jobs in terms of skills development, income and working time.

Figure 21 **Collective interest representation and income quality, 2021**

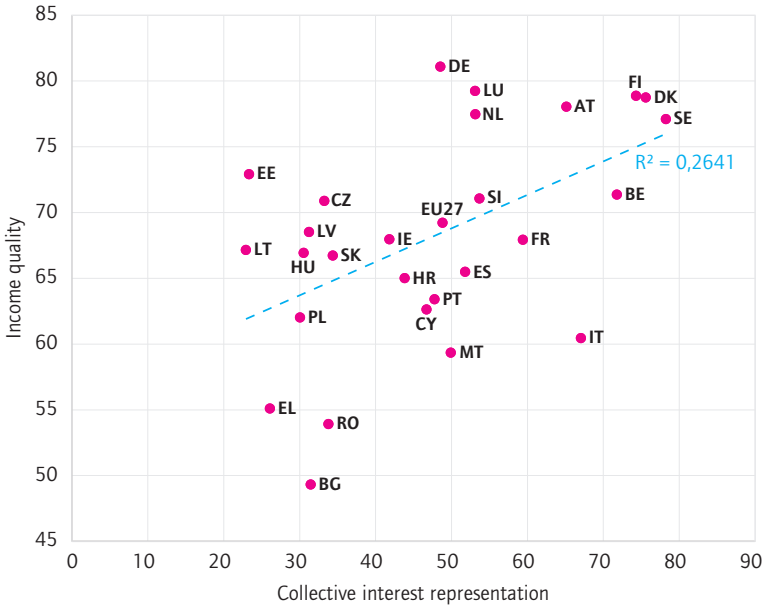


Figure 22 **Collective interest representation and working time quality and work-life balance, 2021**

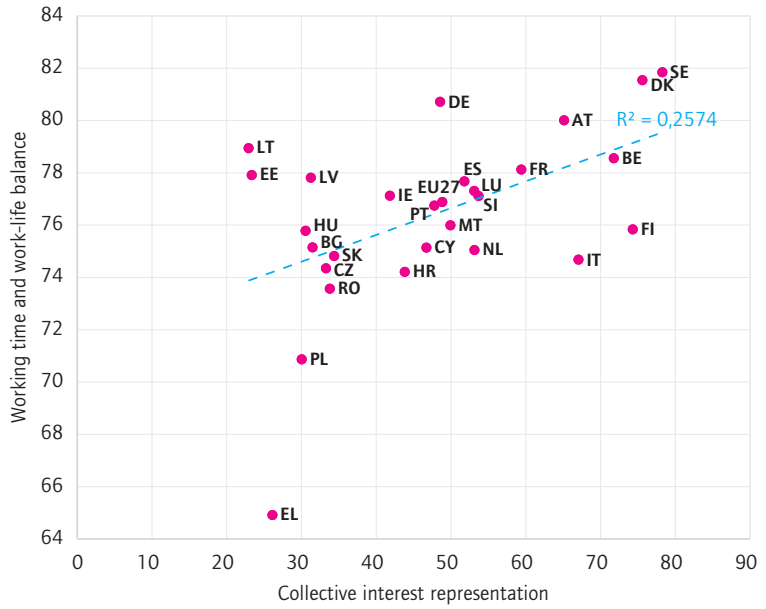
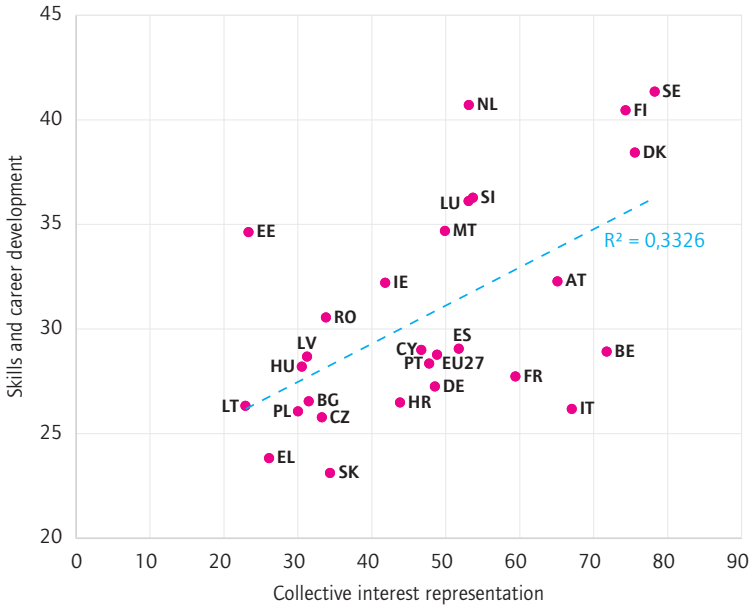


Figure 23 **Collective interest representation and skills and career development, 2021**



7. Unequal distribution of job quality across the workforce

In the previous sections, job quality has been considered as a country-level concept and expressed as an average score across all employed persons (or all employees for collective interest representation) in a given country. However, an important variation in job quality is also found between workers doing distinct types of work even within the same country. This heterogeneity in job quality across different groups of workers is explored in this section. The analysis focuses on those dimensions and sub-dimensions of the Job Quality Index which are derived entirely from the EWCS/EWCTS, allowing a direct matching of job quality information with other work and worker characteristics.

Figure 24 shows the variation in income quality (JQI.1) across occupational groups and how this differs by gender. Not surprisingly, there is a clear occupational gradient in the quality of income, with white collar and higher skilled occupational groups having jobs with more predictable and adequate earnings. In these occupations, women tend to report slightly better outcomes compared to men, but the gender gap is reversed, in favour of men, in all manual occupations. Figure 25 considers the differences in income quality across occupations for employees and the self-employed. Overall, employees report much better income quality than the self-employed as their earnings are more predictable and adequate in meeting their needs. The disadvantaged position of the self-employed is more pronounced in higher skilled, non-manual occupations, while craft and related trades workers, as well as workers in elementary occupations, report the smallest differences between employment statuses.

Figure 26 illustrates the differences in perceived job security, which is one of the components of the second dimension of the JQI. Higher values indicate that people feel more secure in their jobs. Overall, public sector jobs are perceived as more secure, in particular in public administration and social security. Lower-level jobs in private services are, in contrast, the least secure, with accommodation and food services characterised by the most insecure jobs. On average, women feel more secure in their jobs compared to men, and this difference is most pronounced both in accommodation and food services and in transport and storage as well as in the public sector. In contrast, men feel more secure when working in ICT and broadly in industry.

Figure 24 **Income quality (JQI.1) in 2021, by occupation and gender, EU27**

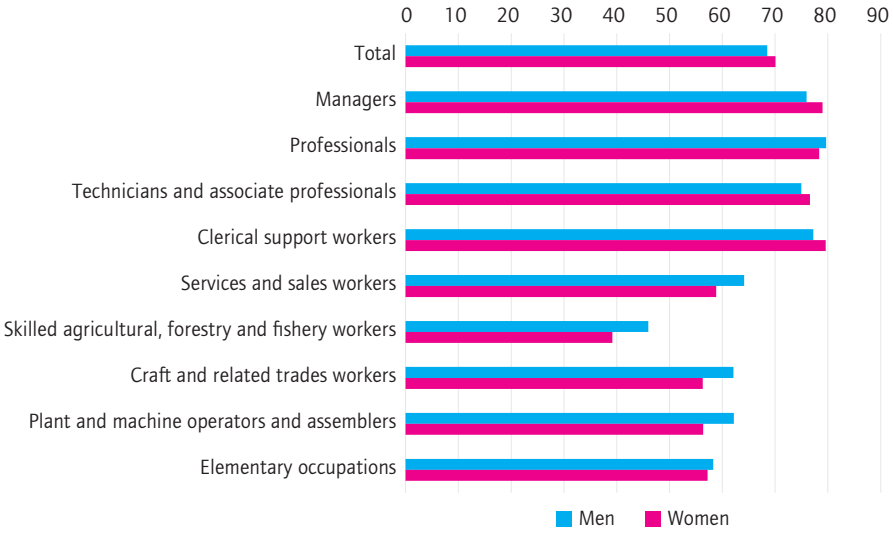


Figure 25 **Income quality (JQI.1) in 2021, by occupation and employment status, EU27**

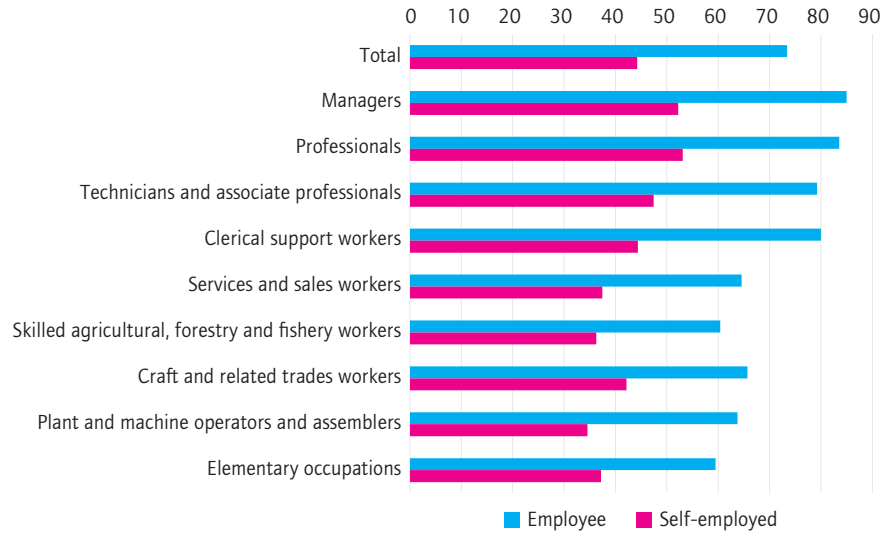
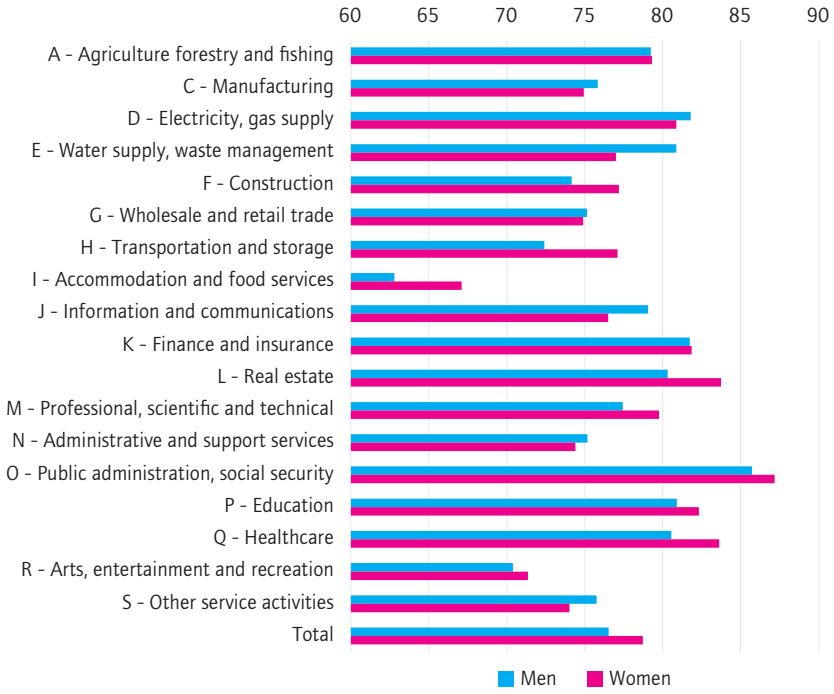


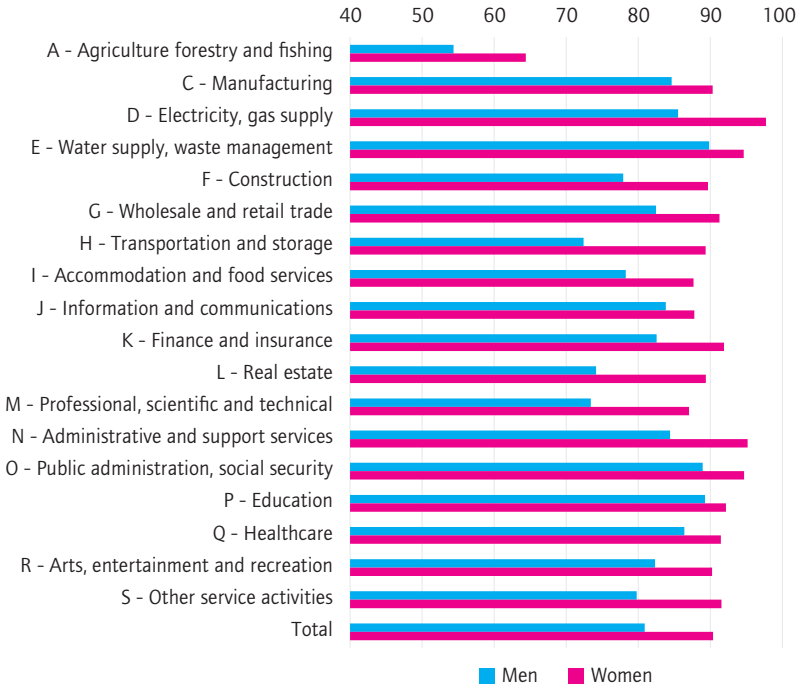
Figure 26 **Job security (a sub-dimension of JQI.2), by sector and gender, EU27**



Note: Sectors with fewer than 50 observations per gender are not shown.

The amount of time spent at work is a key element of work organisation, determining the configuration of tasks and the time that is left for other, non-work activities, as well as constituting a serious health risk factor when hours are long, unsocial or unpredictable (for a review see Franklin et al. 2022). Figure 27 shows sectoral and gender variations in one aspect of our measure of working time quality and work-life balance (JQI.3); namely, the share of workers who do not work excessive hours, thus spending no more than 48 hours per week at work. Similarly to job security, the best outcomes here are reported by those employed in the public sector as well as those in utilities. Agriculture, construction and transport and storage, on the other hand, are characterised by the highest share of excessive work hours. Women report better working time quality on this measure across all sectors, the gap being widest in transport and storage and in real estate activities.

Figure 27 **Not working excessive hours (% working 48h/week or less, a sub-dimension of JQI.3), by sector and gender, EU27**



Note: Sectors with fewer than 50 observations per gender are not shown.

The quality of working conditions (JQI.4) is a relatively complex measure as it encompasses a diverse set of work characteristics – work intensity, work autonomy and physical risk factors – which are known do not follow the same pattern across the workforce. Figure 28 illustrates these patterns by occupational group, revealing trade-offs rather than a correlation between the sub-dimensions of the quality of working conditions. As a reminder, higher values correspond to a better outcome on all these sub-dimensions of job quality.

A first observation is that poor scores on work intensity (which signify more intense work) observed among managers, and to a lesser degree also among professionals, are accompanied by high levels of work autonomy and a relatively risk-free physical environment. In contrast, work is somewhat less intense for services and sales workers, elementary occupations and plant and machine operators, but they also have very low levels of autonomy at work. Workers in elementary occupations and in agriculture are the most exposed to physical work risks.

Figure 28 **Working conditions (JQI.4 and sub-dimensions), by occupation, EU27**

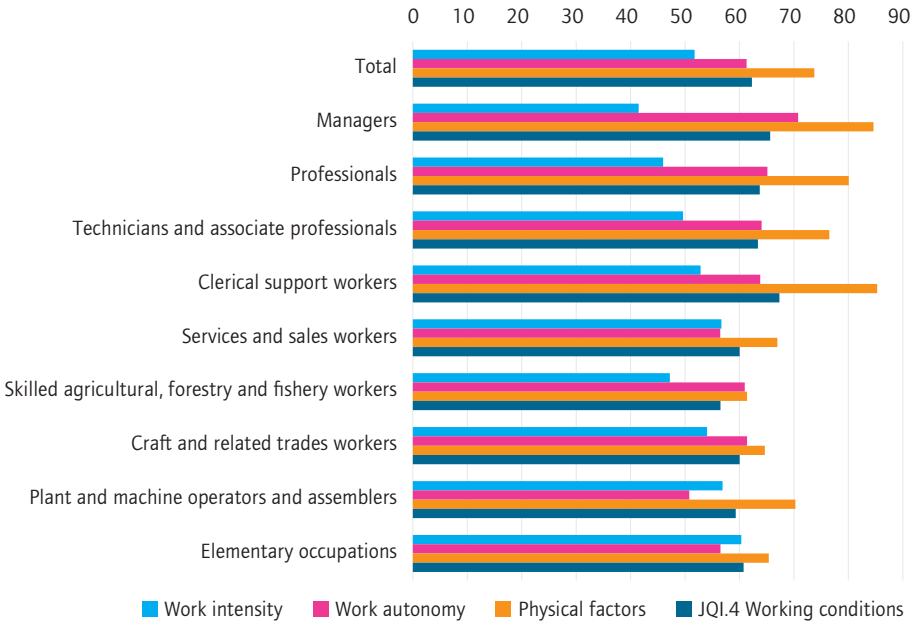


Figure 29 shows the variation in the overall quality of working conditions (JQI.4) by size of company and gender. There is a U-shaped relationship with company size, with those working alone and in micro companies, as well as those in establishments with 250-499 workers, reporting the most favourable conditions. The worst outcomes in terms of working conditions are found in companies with 50-99 and 10-49 workers. The gender gap in the quality of working conditions also depends on company size. In the smallest companies, women report better outcomes than men; the gap closes where there are 5-9 workers and then reverses in favour of men in companies bigger than this. The relative situation of men compared to women is most favourable in companies with 500 or more staff.

Figure 30 looks in greater detail at the separate components of working conditions (JQI.4) and how these differ by company size. Overall, work in micro companies tends to be less intense and to offer higher work autonomy. Levels of autonomy are also relatively high in very large organisations. The quality of the physical work environment is best in the largest companies and for persons working alone.

Figure 29 **Working conditions (JQI.4), by company size and gender, EU27**

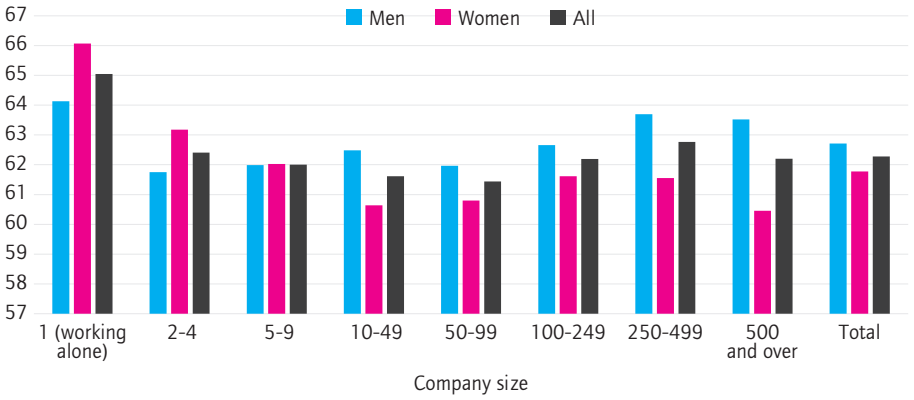
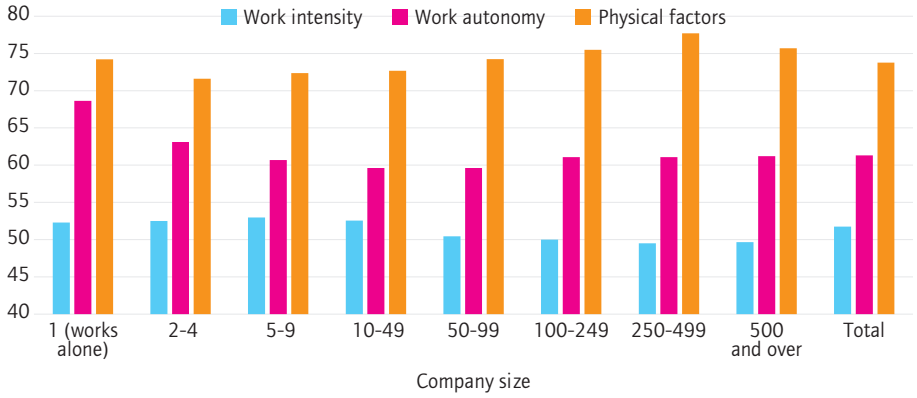


Figure 30 **Working conditions (all sub-dimensions of JQI.4), by company size, EU27**



Finally, turning to the last dimension of the Job Quality Index, it is possible to disentangle the differences in employee representation by firm size (Figure 31) and by sector of economic activity (Figure 32). Access to channels of employee voice and representation improves with increasing organisational size. Employees working in the largest enterprises, with 250 or more people, thus have access to these channels the most often. Interestingly, men working alone and in micro enterprises report better outcomes on this measure compared to women, but the gender gap is generally reversed for bigger organisations.

Figure 31 **Employee representation in the company/organisation (a sub-dimension of JQI.6), by company size and gender, EU27**

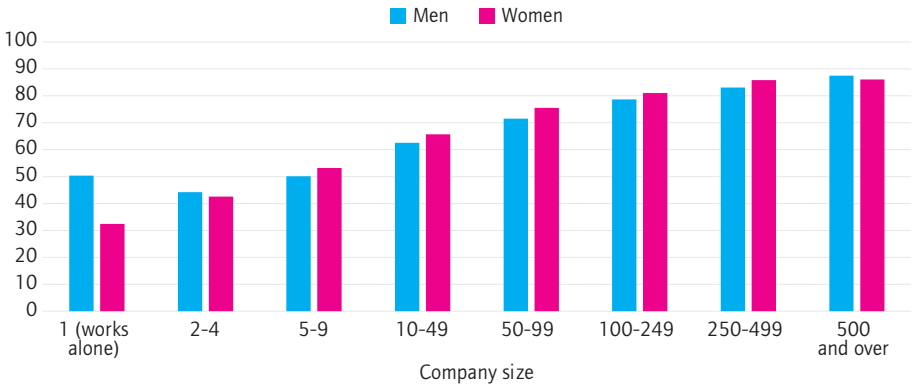
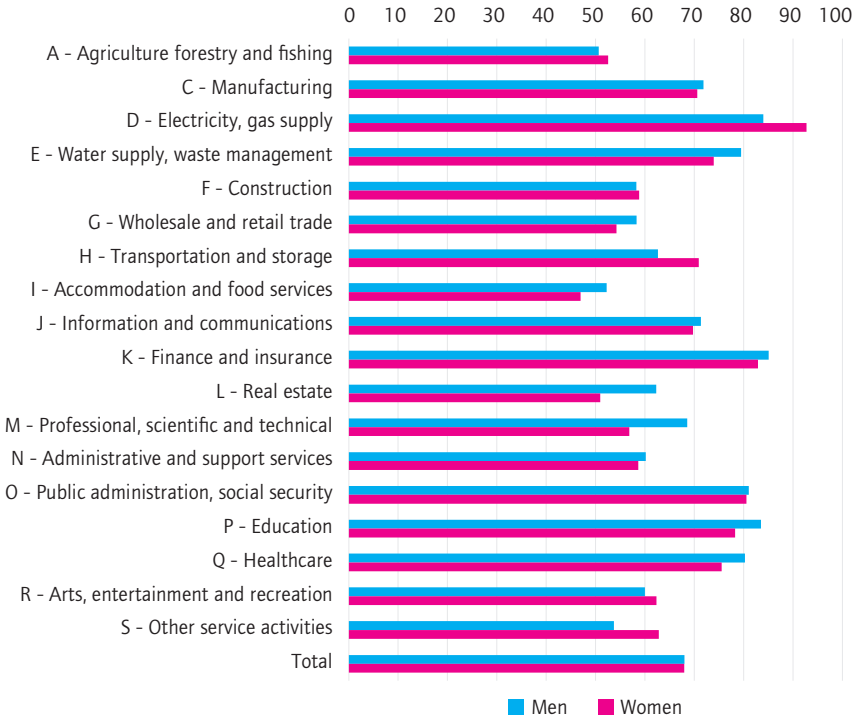


Figure 32 illustrates an unequal access to employee voice and representation across sectors. Employees in electricity and gas supply and in finance and insurance, as well as in the public sector, report such access the most often. On the other hand, in accommodation and food services employee representation is the least present. A lack of gender differences at aggregate level hides some variation in this respect between sectors. The gender gap in favour of women is most pronounced in utilities, transport and storage and in other services, while men report better outcomes in professional, scientific and technical services as well as in real estate services.

Figure 32 **Employee representation in the company/organisation (a sub-dimension of JQI.6), by sector and gender, EU27**



Note: Only employees are included. Sectors with fewer than 50 observations per gender are not shown.

8. Summary and conclusions

This paper makes a contribution to the literature on the measurement of job quality (e.g. Muñoz de Bustillo et al. 2011; Howell and Kalleberg 2019) by presenting the landscape of the Job Quality Index across EU countries in 2021, thus at the height of the changes to work organisation and performance inflicted by the Covid-19 pandemic as well as in the context of the ongoing structural transformations, not least related to greening the economy and digitalisation. Moreover, this study documents a broad picture of changes over time in the quality of jobs in the EU, revealing how the relative position of countries has been evolving on various dimensions of job quality between 2005 and 2021.

The analysis paints a picture of a highly diverse European workforce, divergent in terms of job quality across countries and socio-economic groups. Admittedly, these differences are larger in some respects than in others. For instance, income quality, which does not measure wage levels but the predictability and adequacy of earnings, clearly sets apart Bulgaria, Romania and Greece, followed by most of central, eastern and southern Europe, from the Nordics, Germany, Luxembourg, Austria and the Netherlands. It is worrying in that it reproduces the ranking based on wage levels (Piasna 2017), suggesting that low earnings tend also to be less predictable, creating a vicious circle of more precarious livelihoods in several low income Member States (see also Howell and Kalleberg 2019). An even more outstanding division is observed in terms of the quality of collective interest representation, whereby EU countries appear to be clustered in segments resembling industrial relations systems and thus testifying to the permanence of these in an otherwise rapidly changing world of work. On the other hand, on some dimensions of job quality there are clear outliers while the rest of the countries of the EU display relatively similar outcomes. This is the case in forms of employment and job security, with Spain clearly lagging behind, and in working conditions, where the Netherlands and Estonia clearly stand out as the best performers.

It is notable that none of the EU countries has achieved the highest possible score on any of the job quality dimensions while, on many dimensions, the scores are in fact quite a long way from achieving it. This means that many European workers still labour under conditions that leave much to be desired.

The tracking of the trends in job quality over time in this Working Paper is based on a league table system comparing the relative ranking of countries at various points in time. This way of presenting the results has been dictated by severe limitations in data availability and comparability which do not allow an assessment of the scale of the improvement or deterioration in job quality in any country or

the magnitude of such changes. It does, however, allow a tracing of the regional patterns in developments in job quality. It illustrates clearly that there is relative stability at the bottom and at the top of most of the rankings, constructed around different dimensions of job quality, but also a dynamic situation in the middle. The analysis also reveals some worrying developments with several formerly rather well-performing countries noting a drop to the bottom of the country ranking such as, for instance, Greece, Spain and France in terms of working conditions.

The analysis also tackles the puzzle of 'more and better jobs' as a potentially reinforcing dynamic. It reveals a strong and positive correlation between job quality, as measured by the Job Quality Index, and employment levels at country level. There might well be different mechanisms at play explaining this relationship. For instance, better quality employment opportunities might encourage some economically inactive persons to enter paid employment as it would represent a more attractive alternative to unemployment or other, non waged, activities. A job of better quality, with more predictable earnings, convenient working hours, flexibility and autonomy, might also enable better reconciliation between work and other responsibilities, especially for the parents of young children or persons caring for other family members. A safe and healthy work environment might enable disabled people and those with other health constraints to enter paid work. At the same time, jobs of better quality might contribute to economic development and progress, in turn stimulating new job creation and increasing overall employment levels. Economies with more higher skilled jobs, where employers invest in skills and the career development of their workforce, have the potential to stimulate innovation and high value added output. Competition through a low wage and precarious employment model has not proved itself to lead to sustainable outcomes among European countries (Meardi 2012; Drahokoupil and Piasna 2018).

Finally, this study provides some support for the important role of collective bargaining and employee representation in achieving good quality outcomes on other measures of job quality, although a causal link could not be established with any certainty. Nonetheless, in countries with more developed systems of collective employee representation and voice, workers have access to jobs with more predictable and adequate earnings, with better quality of working time that also allows for achieving better work-life balance and with greater opportunities for lifelong learning in the workplace that improve the prospects for career development.

Overall, the update of the Job Quality Index presented in this Working Paper provides much needed clarity in the definition and synthetic comparative measurement of job quality that plainly indicates the desired direction of change. The results confirm the importance of measuring the quality of jobs for both policymakers and researchers. Jobs in EU labour markets continue to differ in many key aspects, reinforcing polarisation across various groups of workers and divergence between countries. The growing realisation that the quality of jobs is central to addressing the mounting social and economic challenges (Howell and Kalleberg 2019) reinforces the need to put job quality firmly on the EU social policy agenda in order to ensure that the ongoing structural transformations have socially beneficial outcomes and that there is a route to recovery out of perpetual crisis.

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Annex

Table A1 **Job Quality Index in 2021, by dimension and for overall JQI (ordered by scores on each dimension)**

Income quality		Forms of employment and job security		Working time and work-life balance		Working conditions		Skills and career development		Collective interest representation		Overall JQI (normalised)	
DE	81.1	DK	93.1	SE	81.8	NL	67.8	SE	41.4	SE	78.2	DK	87.6
LU	79.2	LU	92.8	DK	81.5	EE	66.7	NL	40.7	DK	75.6	SE	82.3
FI	78.9	DE	92.3	DE	80.7	DE	64.3	FI	40.5	FI	74.3	NL	79.2
DK	78.7	AT	92.2	AT	80.0	IT	64.3	DK	38.4	BE	71.8	LU	73.5
AT	78.0	HU	91.9	LT	78.9	HU	63.9	SI	36.3	IT	67.0	AT	72.8
NL	77.5	IE	91.6	BE	78.6	PT	63.9	LU	36.1	AT	65.1	FI	70.6
SE	77.1	MT	90.8	FR	78.1	DK	63.9	MT	34.7	FR	59.4	DE	69.4
EE	72.9	EE	90.5	EE	77.9	LT	63.7	EE	34.6	SI	53.7	EE	63.6
BE	71.4	BE	90.3	LV	77.8	MT	63.5	AT	32.3	NL	53.1	BE	63.6
SI	71.1	LV	90.3	ES	77.7	LU	63.5	IE	32.2	LU	53.1	SI	62.7
CZ	70.9	NL	89.9	LU	77.3	LV	63.4	RO	30.6	ES	51.8	MT	57.1
EU27	69.2	LT	89.9	IE	77.1	SI	63.2	ES	29.1	MT	49.9	IE	53.1
LV	68.5	SK	88.9	SI	77.1	SE	63.0	CY	29.0	EU27	48.8	LV	51.7
IE	68.0	CZ	88.7	EU27	76.9	BG	62.5	BE	28.9	DE	48.5	EU27	51.6
FR	67.9	BG	88.6	PT	76.7	HR	62.5	EU27	28.8	PT	47.8	HU	51.3
LT	67.2	FR	88.6	MT	76.0	SK	62.4	LV	28.7	CY	46.7	PT	49.3
HU	66.9	RO	88.2	FI	75.8	AT	62.3	PT	28.4	HR	43.8	FR	48.9
SK	66.7	FI	88.1	HU	75.8	EU27	62.3	HU	28.2	IE	41.8	LT	47.5
ES	65.5	SE	88.0	BG	75.2	BE	61.9	FR	27.7	SK	34.4	IT	45.3
HR	65.0	EU27	88.0	CY	75.1	RO	60.4	DE	27.3	RO	33.8	HR	43.4
PT	63.4	SI	88.0	NL	75.1	CZ	60.4	BG	26.6	CZ	33.3	SK	40.0
CY	62.6	HR	87.9	SK	74.8	FI	60.4	HR	26.5	BG	31.5	CZ	39.9
PL	62.0	PT	86.9	IT	74.7	IE	60.3	LT	26.3	LV	31.2	ES	37.7
IT	60.5	PL	86.3	CZ	74.3	ES	60.3	IT	26.2	HU	30.5	CY	36.7
MT	59.3	EL	86.2	HR	74.2	PL	60.3	PL	26.1	PL	30.0	RO	34.2
EL	55.1	CY	85.6	RO	73.6	EL	59.4	CZ	25.8	EL	26.1	BG	33.4
RO	53.9	IT	82.9	PL	70.9	FR	58.9	EL	23.8	EE	23.3	PL	27.9
BG	49.3	ES	80.0	EL	64.9	CY	58.9	SK	23.1	LT	22.9	EL	13.4

Table A2 **Working conditions by sub-dimension in 2021 (ordered by scores on each sub-dimension; higher scores always represent better job quality)**

Work intensity		Work autonomy		Physical risk factors	
LT	59.1	NL	69.9	NL	76.7
BG	57.5	EE	69.6	LU	75.3
LV	56.7	MT	69.2	SI	74.5
SK	56.2	DE	66.5	SK	73.3
EE	56.0	DK	66.5	DE	73.1
HR	55.4	LU	64.6	DK	72.7
NL	55.2	IT	64.4	IT	72.7
PT	54.0	HU	63.9	SE	72.5
HU	53.2	SE	63.1	BG	72.5
IT	52.7	FI	63.0	HU	72.3
ES	52.2	PT	62.7	IE	72.2
DE	52.0	EU27	62.1	EE	72.1
SI	51.9	BE	61.8	LT	72.0
DK	51.8	AT	61.8	AT	71.9
EU27	51.8	PL	60.9	CZ	71.8
CZ	51.5	LV	60.8	PT	71.4
AT	51.1	SI	60.7	MT	71.3
BE	51.0	HR	60.1	EU27	70.9
RO	50.9	IE	59.4	BE	70.8
PL	50.7	RO	58.4	RO	70.7
SE	50.2	ES	58.3	LV	70.3
FR	49.9	EL	58.1	EL	70.1
IE	48.9	CY	58.0	HR	69.4
LU	48.5	FR	57.5	CY	69.3
FI	47.7	LT	57.5	FI	68.9
MT	47.6	SK	57.0	PL	68.7
EL	44.9	CZ	56.8	ES	67.3
CY	44.6	BG	55.3	FR	67.0

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D/2023/10.574/12
ISSN 1994-4446 (print version)
ISSN 1994-4454 (electronic version)

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