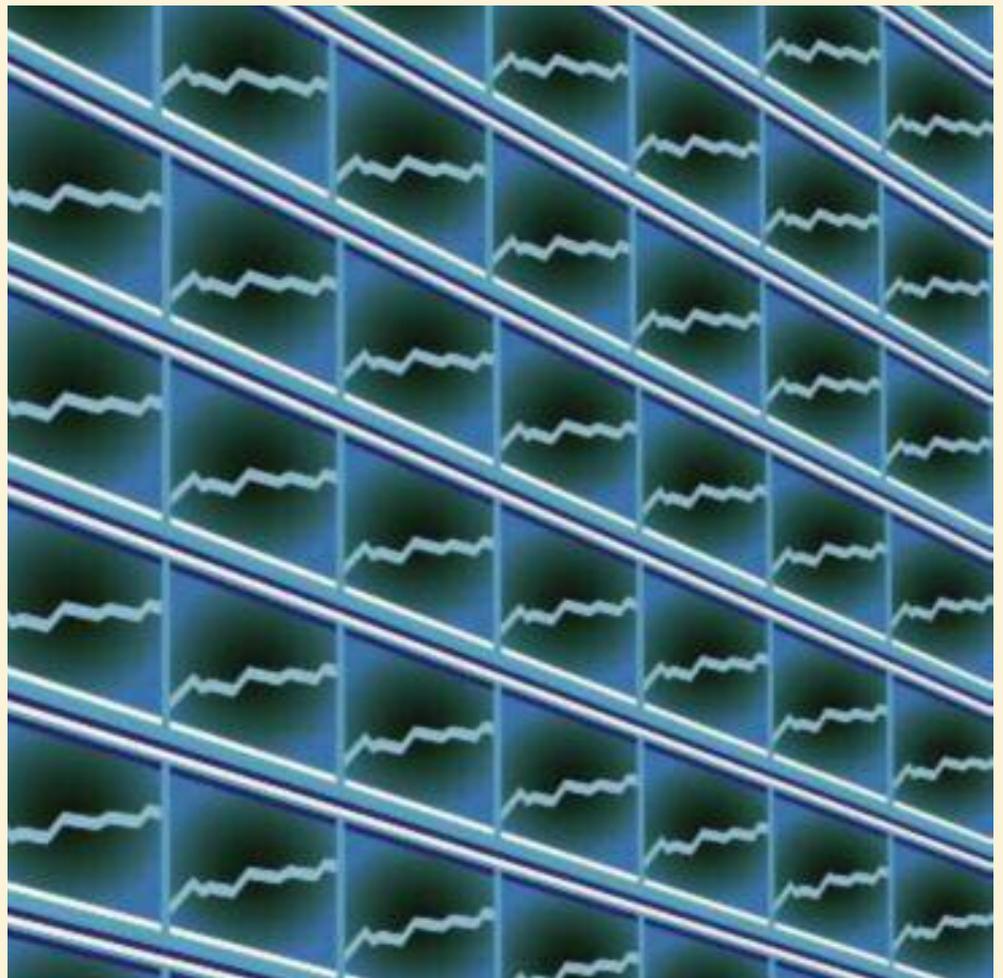




Working conditions in the European Union: Working time and work intensity



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Working conditions in the European Union: Working time and work intensity

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Foreword

Working time has been a recurring issue in the European labour market for many years, and continues to be controversial in relation to the revisions of the working time directive. Furthermore, the intensification of work has also become a matter of debate. Understanding the impact of long and intense working hours is crucial in the context of the ongoing debate on working time and quality of work.

Since 1990, the European Foundation for the Improvement of Living and Working Conditions (Eurofound) has been collecting data on developments pertaining to working conditions – a key dimension of quality of life in Europe. The latest of these surveys, the fourth European Working Conditions Survey (EWCS), provides a comprehensive overview of this field of research across 31 countries in Europe.

The present study discusses what work intensity is and how it can be measured. It shows that there is a strong link between work intensity and poor working conditions, both physical and psychological. Moreover, nowadays there is little indication that intensification of work is decreasing. Work intensification has developed, it is often argued, as a result of globalisation, as well as from the need to fulfil Europe's objectives of being more competitive and to create more jobs and economical growth. These are all reasons which are likely to remain, at least over the short and medium term.

The report explores the variability in working hours among employees, both in terms of quantity and whether they are 'standard' or 'unsocial' hours; it also examines the influence of job content and the impact on work–life balance. The data reveal sharp variations between Member States in relation to both long working hours and the gender gap in this regard.

Companies where high-intensity work is common might look at paying more attention to addressing the possible negative consequences in terms of workers' health and lifelong learning. Excessively intense work may be unsustainable and it could undermine the ability of the labour market to accommodate an ageing workforce. These are just some of the recommendations and observations that this study offers. We hope that this statistical analysis of the EWCS will provide a greater insight into the issues of working time and work intensity across Europe, helping to inform European policy debate and initiatives in this area.

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Director

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Deputy Director

Country codes

EU15 15 EU Member States prior to enlargement in 2004 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK)

NMS 12 New Member States, 10 of which joined the EU in 2004 (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia – sometimes referred to as NMS10) and the remaining two in 2007 (Bulgaria and Romania)

EU27 27 EU Member States

EU27

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany
EL	Greece
HU	Hungary
IE	Ireland
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SK	Slovakia
SI	Slovenia
ES	Spain
SE	Sweden
UK	United Kingdom

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EWCS – Survey methodology

Quality assurance

The quality control framework of the European Working Conditions Survey (EWCS) ensured that the highest possible standards were applied to the questionnaire design, data collection and editing processes in order to strengthen the robustness of the research and ensure the accuracy, reliability and comparability of the survey data. A wide range of information on the survey's methodology and quality control processes was published on the website of the European Working Conditions Observatory (EWCO). As part of the quality control procedures, Eurofound also conducted a qualitative post-test for the modules on training and job development in five countries (Austria, Czech Republic, Finland, Portugal and the UK) to better understand the survey's capacity to measure complex phenomena and to make improvements in the questionnaire for future surveys.

Geographic coverage

The evolution of the EWCS follows the changes in the EU itself over the last 15 years. In 1990/91 the survey covered the 12 EU Member States that made up the EU at that time; 15 countries were covered in 1995/96 and 16 in 2000 (including Norway for the first time). The 2001 EWCS was an extension of the 2000 survey to cover the then candidate countries (Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Romania). The survey was subsequently extended to Turkey in 2002. The fourth major wave in 2005 had a larger geographic coverage encompassing 31 countries, including the 27 EU Member States plus the candidate countries Croatia and Turkey, as well as the EFTA countries Switzerland and Norway.

Questionnaire

The survey questionnaire was developed with the support of a questionnaire development group involving members of Eurofound's Governing Board, representatives of the European social partners, other EU bodies (European Commission, Eurostat, the European Agency for Safety and Health at Work), international organisations (OECD, ILO) and national statistical institutes, as well as leading European experts in the field. The questionnaire was translated into 27 languages and 15 language variants.

The fourth EWCS questionnaire consists of more than 100 questions and sub-questions covering a wide range of work-related aspects, such as job characteristics and employment conditions, occupational health and safety, work organisation, learning and development opportunities, and work-life balance. Although the total number of questions has been steadily increasing since the first survey in 1990/91, the core variables of the questionnaire have been maintained so that trends and changes in working conditions in the EU over the last 15 years can be examined.

Sample

The survey sample is representative of persons in employment (employees and self-employed), aged 15 years and over, resident in each of the surveyed countries. In the 2005 edition of the survey, around 1,000 workers were interviewed in each country, with the exception of Cyprus, Estonia, Luxembourg, Malta and Slovenia, where the number of persons interviewed totalled 600. The survey sample followed a multi-stage, stratified and clustered design with a 'random walk' procedure for the selection of the respondents.

Fieldwork

In total, 29,680 workers were interviewed face to face in their homes from 17 September to 30 November 2005, within different timespans in each country and an average of seven weeks. The fieldwork was coordinated by Gallup Europe and a network of national contractors carried out the data collection in each country.

Weighting

Data is weighted against the European Labour Force Survey figures. Variables used for the weighting are: sex, age, region (NUTS-2), occupation (ISCO) and sector (NACE).

Access to the survey datasets

The complete set of survey datasets is accessible via the UK Data Archive (UKDA) of the University of Essex at www.esds.ac.uk. To access data files, users are required to register with the UKDA. Information on the registration procedure is available at www.esds.ac.uk/aandp/access/login.asp. The archive also provides access to survey documentation and guidance for data users. Users are advised to read supplementary supporting documentation on the methodology provided on this website before working with the data.

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Executive summary

Introduction

The fourth European Working Conditions Survey (EWCS), conducted in 2005 by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), addresses topics that figure high on the European Union's employment policy agenda. The overall aim of the EWCS is to provide an overview of the state of working conditions throughout Europe, and an indication of the extent and type of changes affecting the workforce and the quality of work. Following the 2005 survey, Eurofound carried out further in-depth analysis of its findings on key themes relating to working conditions in the EU.

One of the themes explored was working time and work intensity and the implications for society and the labour market as a whole. The research looked at the nature of work intensity and how it can be measured. The findings revealed that there is a strong link between work intensity and poor working conditions, both physical and psychological.

Policy context

Working time has been a recurring issue in EU employment policy for many years, and continues to be controversial in terms of proposed revisions to Directive 2003/88/EC concerning certain aspects of the organisation of working time, known as the working time directive. In December 2008, the European Parliament refused to approve the common position on this directive, which the Member States had reached in June 2008 after several years of deadlock in negotiations.

It is often argued that globalisation and the Lisbon strategy objectives of competitiveness and economic growth have fuelled an increase in work intensity. Naturally, the intensification of work has also become a matter of debate. In the 1990s, the EWCS provided strong evidence of an increase in work intensity across the EU and there is little sign of lower intensity levels or even slower intensification at the beginning of the new millennium. High levels of work intensity may undermine the sustainability of work and contravene EU policy aspirations towards a high quality of work and a high employment rate. Reducing work intensity for special groups would help to achieve the target of EU Employment Guideline No. 18: 'Support for active ageing, including appropriate working conditions, improved occupational health status and adequate incentives to work and discouragement of early retirement.'

Previous research has highlighted ways of mitigating the impacts of high intensity, such as increasing autonomy and social support at work.

Key findings

Work intensity

Different studies and stakeholders tend to define work intensity in different ways. However, some findings are consistent and do not depend on the specific way that intensity is measured. They suggest that high work intensity has a huge cost in terms of occupational health and safety. A strong link emerges between work intensity and poor physical and psychological working conditions.

Nonetheless, people who are able to cope with high work intensity are likely to have enhanced career expectations. Some workers may even experience intense work as interesting or rewarding. On the other

hand, a high pace of work is not sustainable in the long term and qualification levels may suffer due to the inability to pursue training opportunities.

It appears that intensification does not involve an increasing proportion of people working hard all of the time; rather, it seems to be the case that some complex and unstable organisations require intense work for at least part of the time. Organisations that require very intense work (which consequently may be dangerous for some of their members, if not for all) can be regarded as non-optimal. The impact of perceived work intensity depends on other job characteristics, such as work autonomy or social support, although a very high work intensity cannot be entirely counterbalanced.

There is no clear European driver or evidence of a trend towards lower work intensity in Europe. Intensity is associated with new forms of organisation, using new management methods and new information and communication technologies.

Working time

The report shows that working time is strongly related to gender, country and occupation. In each EU Member State, women work fewer hours than men; however, this gap varies greatly, with a particularly large disparity in countries where part-time work is highly prevalent among women. There are also considerable differences in the rate of working long hours between countries and between occupations.

Variability in autonomy over working hours differs according to occupational group. Working long or unsocial hours has a damaging impact on work–life balance, and this effect is only slightly alleviated by working time autonomy. Long working hours and part-time work both have negative effects on working conditions.

The report provides a separate analysis for self-employed persons, who represent 16% of the EU25 workforce. They are more likely to work long and unsocial hours, but have shorter commuting times compared with employees. In general, self-employed people with employees experience higher work intensity than employees, while self-employed people without employees have lower work intensity.

The study constructs an Onerous Work Organisation Index and, by combining it with an index of innovative work organisation, identifies five groups of Member States.

Policy pointers

- In order to limit the negative consequences of work intensity, poorly designed or malfunctioning organisations should be upgraded and improved. Incentives may be required to encourage companies to adopt best practices in this respect.
- It is necessary to develop appropriate instruments for evaluating and monitoring work intensity, quality of work and productivity of organisations at micro level.
- Long working hours are linked to poor working conditions. The findings show that this is particularly the case when working time exceeds 48 hours a week. Working from 45 to 48 hours a week is also related to problematic working conditions. There are strong variations between Member States in relation to both long working hours and the gender gap in this regard. This suggests that the legal,

institutional and cultural context matters and that it is possible to reduce the proportion of overworked people. Taking such a step would improve working conditions and provide more equal opportunities between the genders.

- Promoting part-time work is not a sound means of improving working conditions. Very short working hours are not associated with especially good working conditions. Overall, part-time workers experience poor psychological working conditions, limited socioeconomic integration and a dearth of career opportunities.
- The probability of occupational accidents or health problems is slightly lower when the pace of work depends on external demand. In modern organisations, the work of most employees depends on such demand. In future waves of the EWCS, it would be useful to implement some additional questions on this topic.
- The potential of the EWCS to contribute positively to the development of useful indicators, in the context of the EU ‘open method of coordination’ and the Integrated Guidelines for Growth and Jobs, goes substantially beyond the question of developing indicators of onerous work. Quality of work and employment is more generally a central issue in EU employment policy and a useful future exercise would be to explore the possibilities of developing a more general work quality index which could be used to inform policy.

This chapter discusses what work intensity is and how it can be measured. It then shows that a strong link emerges between work intensity and poor working conditions, both physical and psychological. The chapter subsequently considers the intensification of work that occurred during the last part of the 20th century and finds no evidence of a trend to lower work intensity or even to slower intensification of work at the beginning of the new millennium.

Measuring work intensity

While work intensity is a commonly used notion, there is no straightforward definition due to the variety of actors' perspectives and forms of work.

Work intensity is attributable to several different, albeit linked, factors. In some cases, it can be directly related to the number of basic tasks performed per unit of time. However, this is not true of every kind of organisation. Different forms of organisation lead to varying forms of time constraints. Over the last 30 years, hybrid organisations have arisen in response to economic and sociological trends (Cézard et al, 1992; Veltz, 2000). These hybrid organisations combine several basic forms of organisation, such as bureaucratic and market-oriented forms. Workers in these organisations have to cope with several constraints and perform the additional task of balancing them all. Another kind of additional effort is required due to a high rate of organisational and technical change. Very intense work makes workers concentrate their whole effort on their current task and, as a result, makes it more difficult for them to prepare for further tasks; a vicious circle between intensity and improvisation may result. Finally, sometimes workers themselves may decide to work harder than required.

In fact, only time constraints on the one hand and perceived intensity on the other are easily observable in large-scale surveys. In the European Working Conditions Survey (EWCS), the existence of various types of time constraint is measured by the following question:

'On the whole, is your pace of work dependent, or not, on...?

- the work done by colleagues;
- direct demands from people such as customers, passengers, pupils, patients, etc.;
- numerical production targets or performance targets;
- the automatic speed of a machine or movement of a product;
- the direct control of your boss.'

The responses do not describe the work situation in a completely objective way. For example, if workers deal efficiently with production targets, they may not see these targets as determining their pace of work and they may consequently answer 'no' to the corresponding question. Nonetheless, responses do have a reasonable measure of objectivity. It is important to note that if a worker perceives that they have to satisfy customer demands, for example, they will work in order to satisfy them. Thus, responding 'yes' to the second of the above questions correctly describes the worker's dependency on this demand. The main limitation of these variables is that they measure the presence of some sources of work intensity but not their strength. For example, the automatic speed of a machine may be easy or difficult to keep up with.

Perceived work intensity is an indirect measure of the level of intensity required by the organisation: it depends on the determinants of intensity but also on the resources available to workers, such as equipment, cooperation, support from management, education, training and experience. In the EWCS, three questions measure this perceived intensity:

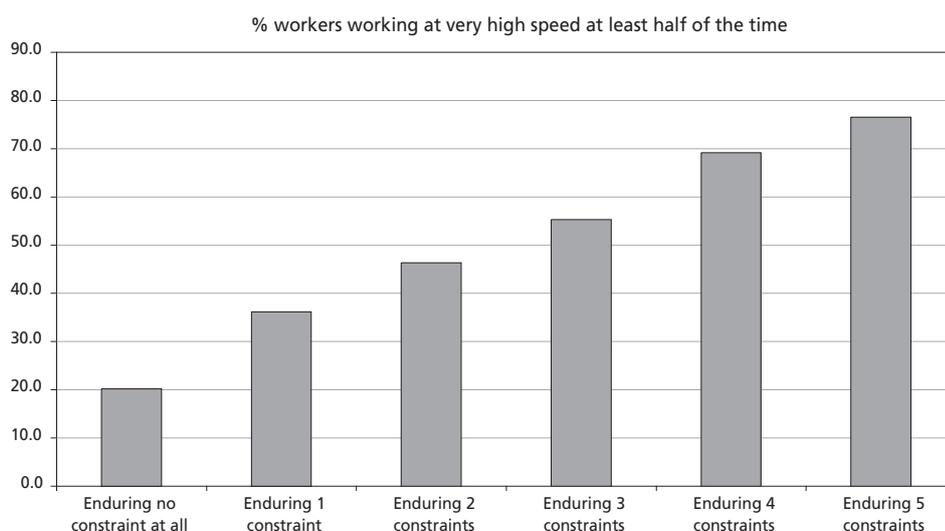
- ‘Does your job involve working at very high speed?’
- ‘Does your job involve working to tight deadlines?’
- ‘[Have you] enough time to get the job done?’

An important advantage of this kind of measure is that it captures the impact of factors other than those listed under the pace constraints above. For the purpose of this study, it is potentially problematic that responses to the questions on perceived intensity are influenced by other aspects of perceived working conditions. ‘High’ speed and ‘tight’ deadlines are not objectively determinable. As is the case for working conditions in general (Gollac, 1997), responses probably depend on several social and psychological processes. It is likely that the perception of stress or risks at work makes workers more conscious of the difficulties in their job, including the notion that their speed of work is ‘high’.

The relationship between pace constraints and perceived work intensity is similar to the more general difference between constraint and strain. The former refers to a set of factors influencing the circumstances of the work, while the latter refers to the reaction of the worker to these factors. Pace constraint is one such exterior factor that influences effort. A ‘high’ speed may refer to the reaction of the worker who feels that he or she has to work faster than their own specific natural pace of work.

To efficiently monitor work intensity and its impact on working conditions, attention should be paid both to the constraint side and to the strain side of intensity. The strain experienced by workers is part of their working conditions and has a direct impact on health at work. However, if management wants to improve working conditions, it can mainly modify the constraints.

Figure 1 Relation between number of pace constraints and perceived work intensity (%)



Note: Percentage of employees reporting that they work at very high speed at least half of the time, while also citing no, one or more than one pace constraints.

Source: EWCS 2005

A strong relationship is evident between pace constraints and perceived measures of intensity. For example, the proportion of employees who report that their job involves working at very high speed is 20% for those who report no pace constraint, 36% for those who report one pace constraint and 46%, 55%, 69% and almost 77% for employees reporting two, three, four or five pace constraints, respectively (Figure 1). The findings are similar for the other two measures of perceived intensity. In order to eliminate possible confounding effects, this study used logistic regressions in which the dependent variables were the measures of perceived work intensity, while the independent variables were the pace constraints, in addition to occupation, economic sector, status and size of the company, country, age, gender, education, tenure, work duration, autonomy and social support at work. Controlling for all of these variables, a strong relationship remains observable between pace constraints on the one hand and perceived work intensity on the other, even if the link is slightly weaker for the relationship between work pace and control by the boss.

Impact on working conditions

Ergonomic observations and statistical analyses have shown how work intensity adversely affects health. Some links between work organisation and health at work are direct. For example, in some cases, high work intensity may be attributable to performing repetitive operations. If these operations require effort, this effort may become harmful to a worker's health. However, the link between both work intensity and other aspects of work organisation with working conditions is often more complex. An ergonomic analysis of activity shows that health at work is optimal when each worker is able to achieve a compromise between their own physiological and psychological characteristics and the demands of the job (de Montmollin, 1986, 1997).

Excessive levels of work intensity prevent the worker from achieving an optimal compromise (Gollac and Volkoff, 2001; Gaudart et al, 2006; Volkoff, 2008). Urgency tends to restrict the set of possible ways of doing work. It necessitates working in the fastest way, not necessarily the easiest, safest or most comfortable way. Evidence of this has been provided in the following specific cases. When the intensity of their work is too high, nurses are more likely to move or lift people awkwardly because they have insufficient time to use machines for these tasks (Villatte et al, 1993). When they have to deal with the direct demand of customers, truck drivers are more likely to change their itinerary at the last moment, often when they are already en route. As a consequence, they spend more time carrying heavy loads, because they often have to extract a package from the front of their container (Hamelin, 1993). When the number of workers in a steel plant decreases and when work intensity increases, workers have to spend more time in very hot places (Millanvoye and Pueyo, 2006). High work intensity may also oblige workers to take higher risks. For example, workers who build temporary constructions for street festivals may have to continue working with members of the public present – a situation that is dangerous for both the public and the workers (Zara-Meylan, 2006).

Numerous factors are necessary to encourage good working conditions: being able to change one's position; being able to take a break at will; having sufficient time to choose the best tool, document or software; spending time to obtain useful information or to build a cooperative network; or anticipating forthcoming tasks to prevent future emergency situations. All of these are impeded by excessive work intensity.

The effect of intensity on working conditions and health depends on the difference between the fastest and the safest way of working. Given that the safest way is not the same for every worker, the effect of intensity differs from one worker to the next. Workers who are unaccustomed to working at high speed experience increased stresses and risks. Intense work is not harmful for everybody. Indeed, some workers perceive it as difficult and complex rather than painful (Hatzfeld, 2006). People who are able to achieve a high level of intensity may receive higher wages and promotions and enjoy a lower risk of being fired. They may also experience high psychological well-being. On the other hand, people who do not achieve such a level of intensity may experience objective and subjective stress. In fact, for every worker, the effect of intensity will vary across time, indicating that work intensity needs to be linked to work sustainability.

Work intensity is not the only characteristic of organisations that influences working conditions and health at work. In particular, social support and ‘job latitude’ – combining autonomy and cognitive requirements – matter. It has long been shown that excessive work intensity causes psychological strain and mental and cardiovascular diseases, and that this risk is especially high when social support and job latitude are weak (Karasek and Theorell, 1990). More recently, it has been shown that excessively demanding work causes illness when the economic and moral rewards are insufficient (Siegrist, 1996). The Karasek and Siegrist models are complementary: both have been validated by independent studies on various populations and in a number of countries (Vézina et al, 2006).

Work intensity and working conditions: Evidence from EWCS 2005

This report provides numerous figures showing the incidence of certain working conditions, depending on work intensity. Using these figures, it is easy to compare the working conditions of employees who are exposed to high work intensity and the working conditions of those who are not exposed to such intensity at work. However, the exposed employees are different from the non-exposed employees according to their occupation, the economic sector in which they work, their age, education and other factors. These differences by themselves induce different working conditions. Thus, in some cases a crude comparison is spurious. In these cases, this study does not show the crude data and the text refers to analyses where other factors have been controlled for.

Working conditions are measured in the EWCS using self-reporting. Therefore, this measure includes a subjective component. However, more ‘objective’ measures of working conditions are not necessarily more relevant, because they miss important aspects of work, including the fact that working conditions, according to many ergonomics experts, cannot be defined independently of the worker’s characteristics.

Specific working conditions strongly depend on the nature of tasks, which in turn is determined by occupation and economic sector. A long job tenure provides workers with a capital of experience allowing them to cope with their work situation without taking as many risks or suffering as much stress as inexperienced workers. A high level of education may allow the employee to approach their job in a more sophisticated way. Ageing may make loads seem heavier, or on the contrary it may engender experience which helps to lessen stresses and risks at work. The longer one’s working hours, the higher is the level of risk and stress in a given job. As the following section will show more extensively, autonomy and social support may counterbalance the effects of intensity to some extent. Finally, the Member State of the employee influences their responses in two ways. Firstly, the institutional context – such as laws, trade union influence and number of labour inspectors – partly determines the quality of ‘real’ working conditions. Secondly, the Member State is a proxy for the language of the interview

and, despite the methodological efforts of Eurofound and Gallup, it is not possible to translate a questionnaire precisely into so many different languages without changing the meaning of some question.

Therefore, this study estimated the effects of work intensity by using a classic econometric technique: logistic regressions. In this model, various working conditions – symptoms, risks, irritants but also positive aspects of work – are assumed to be explained by:

- some characteristics of the job – occupation, sector, status and size of the company, working time and tenure;
- some characteristics of the employee – gender, age and education;
- Member State;
- work intensity measured by the presence of pace constraints;
- some other important characteristics of work organisation – indices of autonomy in the choice of methods; autonomy in working time; cognitive requirements; and social support.

Work intensity is measured in this case by the presence of the various pace constraints or by the perceived intensity. The results of the logistic regression and their interpretation are extensively discussed in the technical report (Burchell et al, unpublished). This report provides figures showing the proportion of employees exposed to certain conditions at work, depending on whether they are exposed to a certain pace constraint or a certain level of work intensity. These figures have been selected so that the results of the crude comparison that they enable are consistent with the findings of the logistic regressions.

Physical working conditions

In the EWCS questionnaire, several variables measure physical exertion: tiring or painful positions; lifting or moving people; carrying or moving heavy loads; standing or walking; as well as repetitive hand or arm movements. The measures use the Nordic scale – that is, the proportion of time that people are exposed to the constraints. In order to avoid unnecessary complexity, this study has constructed dichotomous variables:

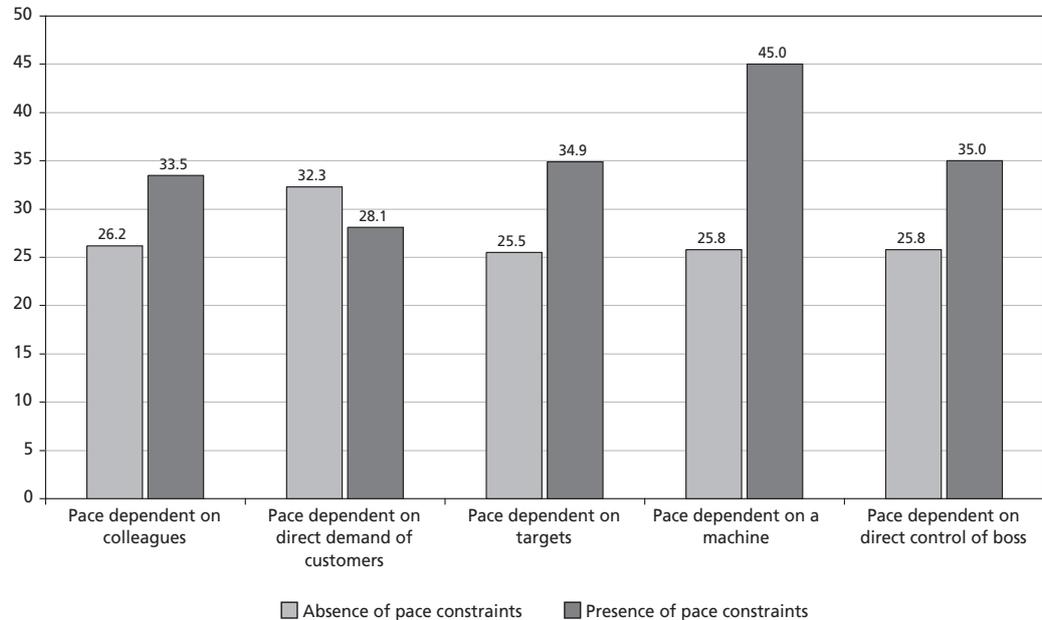
- working in a tiring or painful position at least half of the time;
- standing or walking at least half of the time;
- making repetitive hand or arm movements at least half of the time;
- lifting, moving or carrying people or heavy loads at least a quarter of the time.

The reason for counting the last variable at one-quarter of the time instead of one half is that lifting, moving or carrying people or heavy loads may cause accidents. All other things being equal, these accidents occur more often when people do not specialise in handling or carrying – in other words, when they do not perform this kind of task during the main part of their working time.

The result of the logistical regressions is simple. All other things being equal, almost all pace constraints are associated with a higher probability of every measure of physical exertion. For example, 26% of employees whose pace of work does not depend on their colleagues and almost 34% of those whose

pace of work depends on their colleagues report that they work in a tiring or painful position at least half of the time (Figure 2).

Figure 2 Relation between pace constraints and tiring or painful positions (%)



Source: EWCS 2005

Exceptions concern the customer demand constraint, which is not significantly associated with painful positions, with standing or walking or with repetitive movements; and control by the boss, which is not associated with standing or walking.

Environmental and risk factors are measured by nine variables, using the Nordic scale. The scale for physical exertion was split to derive dichotomous variables. The following discussion will consider whether people are exposed for half of their time or longer to:

- vibrations from hand tools, machinery, etc.;
- noise so loud that one has to raise one's voice to talk to people;
- high temperatures which make one perspire even when not working;
- low temperatures whether indoors or outdoors.

It will also examine whether people are exposed at least one-quarter of their working time to the following potentially dangerous environmental factors:

- breathing in smoke, fumes (such as welding or exhaust fumes), powder or dust (such as wood dust or mineral dust), etc.;
- breathing in vapours such as solvents and thinners;
- handling or being in skin contact with chemical products or substances.

Finally, it will consider being exposed, even very rarely, to:

- radiation such as X-rays, radioactive radiation, welding light or laser beams;
- handling or being in direct contact with materials which can be infectious, such as waste, bodily fluids, laboratory materials, etc.

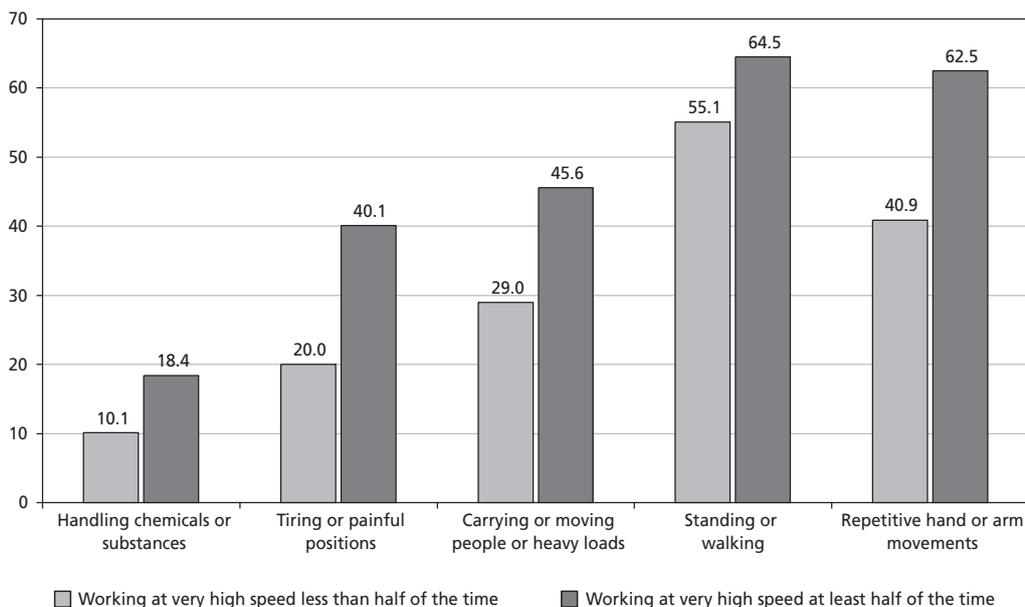
Indeed, duration of exposure to dangerous radiation is strictly regulated, and even a single contact with some infectious agents (the acquired immune deficiency syndrome (AIDS) virus, for example) may result in a serious or even fatal disease.

Generally speaking, the correlation between the various pace constraints on the one hand and the reported presence of risks and irritants on the other hand is positive. Presumably, people exposed to pace constraints in urgent situations cannot always take as many precautions as they ought to in order to avoid dangerous or harmful conditions.

The relation between the market constraint (pace of work depending on customer demand) and the work environment is different, however; this form of constraint was associated with less exposure to noise and extreme temperatures.

It is useful to make a distinction between, on one side, employees whose pace of work depends on customer demand and who are dealing directly with people who are not employees at the workplace, including customers, and, on the other side, employees whose pace of work depends on customer demand but who are not dealing directly with customers. All other things being equal, the former enjoy a safer work environment than other employees, but undergo more physical exertions. The physical working conditions of the latter are, all other things being equal, equivalent or a little better than those of other employees.

Figure 3 Relation between working at very high speed and certain working conditions (%)



Source: EWCS 2005

Interpretation of the strong statistical association between pace constraints and physical working conditions is not obvious. Although ergonomic theory, as well as field observations, support the idea that this link may be causal, it is probably also partly residual. For example, industrial (mechanical) pace constraints are associated with industrial (manufacturing) hazards, creating a spurious correlation.

The results are clearer if, instead of pace constraints, the analysis uses the variables measuring perceived intensity as exogenous variables. Almost all physical exertions and risks are more likely to occur, all other things being equal, when the worker reports working at high speed or to tight deadlines or not often having enough time to get the job done (Figure 3). For example, 10% of employees who work at very high speed less than half of the time and 18% of those who work at very high speed at least half of the time report that they handle chemical products at least one-quarter of their working time. Experiencing symptoms and risks may cause employees to perceive their speed of work as high, which at least in some cases means too high.

Psychological working conditions

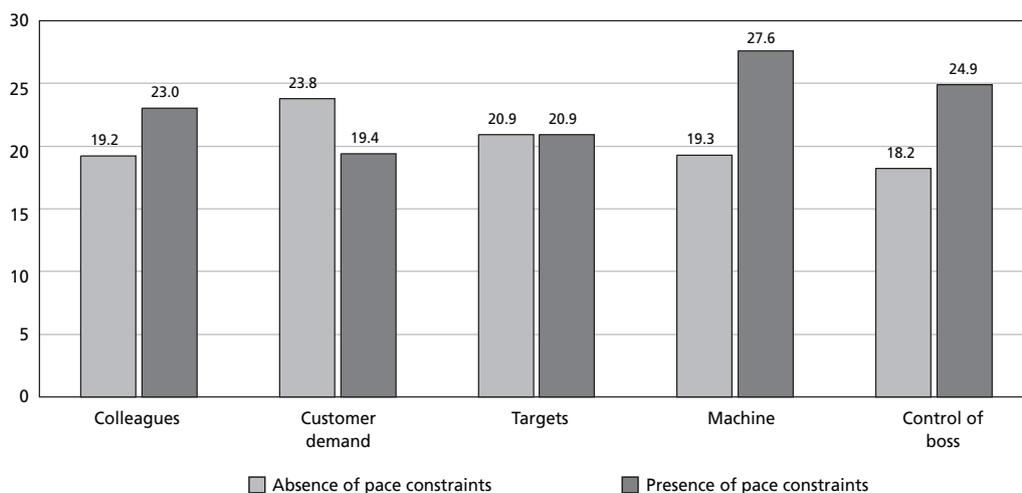
The 2005 version of the EWCS provides a rich set of variables describing psychological working conditions. Some of these variables measure psychological symptoms, while others measure positive aspects of work. To enhance readability of the data, this study uses the absence of positive aspects rather than their presence. Thus, positive statistical correlation coefficients uniformly indicate that pace constraints are associated with worse psychological working conditions. However, the analysis does not hypothesise in advance that this is always the case. The list of variables includes the following:

- at work, not often having the opportunity to do what one does best;
- not often having the feeling of work well done;
- being rarely able to apply one's own ideas in one's work;
- not often feeling that one is doing useful work;
- often finding one's job emotionally demanding (note that it is assumed that an emotionally demanding job draws too much on mental resources and is potentially negative: an assumption that is not always true);
- 'feeling "at home" in the organisation' – disagrees;
- 'having very good friends at work' – disagrees;
- 'might lose one's job in the next six months' – agrees;
- 'well paid for the work done' – disagrees;
- 'good prospects for career advancement' – disagrees;
- 'opportunities to learn and grow' – disagrees;
- often having insufficient time to get the job done;
- having to carry out monotonous tasks.

Generally, the presence of pace constraints corresponds, all other things being equal, to an increased probability of psychological stress. For example, 19% of employees whose pace of work is not dependent on colleagues state that they do not often have the feeling of work well done; meanwhile,

23% of employees whose pace of work is dependent on colleagues have the same feeling (Figure 4). Every kind of pace constraint is associated with worse psychological working conditions; however, the strength of this association differs from one constraint to another. Dependency on the control of one's boss and dependency on work done by colleagues tend to make many psychological working conditions worse. Dependency on the automatic speed of a machine is characteristic of 'industrial' organisations that remain more or less based on the Taylorist or Fordist model of production, typified by a strict division of labour in an automated workflow. Such dependency is linked to a lack of satisfaction regarding the possibility of expressing one's personality – based on the results for the variables of work well done, doing what one does best, applying one's own ideas, feeling that one is doing useful work and monotonous tasks; it is also linked with the fear of being fired. Production targets are associated with high perceived pressure and a low feeling of equity, based on the results for the variables of feeling that one does not have enough time to get the job done, finding the job emotionally demanding and fear of being fired. Finally, the customer demand constraint is mainly linked with the feeling of not having enough time to get the job done and of not being well paid for it, as well as with finding the job emotionally demanding. This applies both to people who are dealing directly with customers and to those who are not.

Figure 4 Relation between pace constraints and not often having the feeling of work well done (%)



Source: EWCS 2005

It is unsurprising to find that the feeling of seldom having enough time to get the job done is correlated with all pace constraints, with the exception of the pace of machines. It is more remarkable that all pace constraints, with the exception of customer demand, are correlated with monotonous tasks. A possible explanation for this finding is that work intensity restricts the variety of methods that the operator may use. Another feeling that depends on most of the pace constraints is the perception of not being well paid for the work one does. There is a conflict between work intensity and equity whereby intensity is not compensated by wage premiums, or at least the compensation is not as high as workers deem fair.

Nevertheless, all other things being equal, the probability of poor working conditions is not always higher in work situations that involve many pace constraints. The perception of not having good career advancement prospects is not positively correlated with any pace constraint. It is important to remember

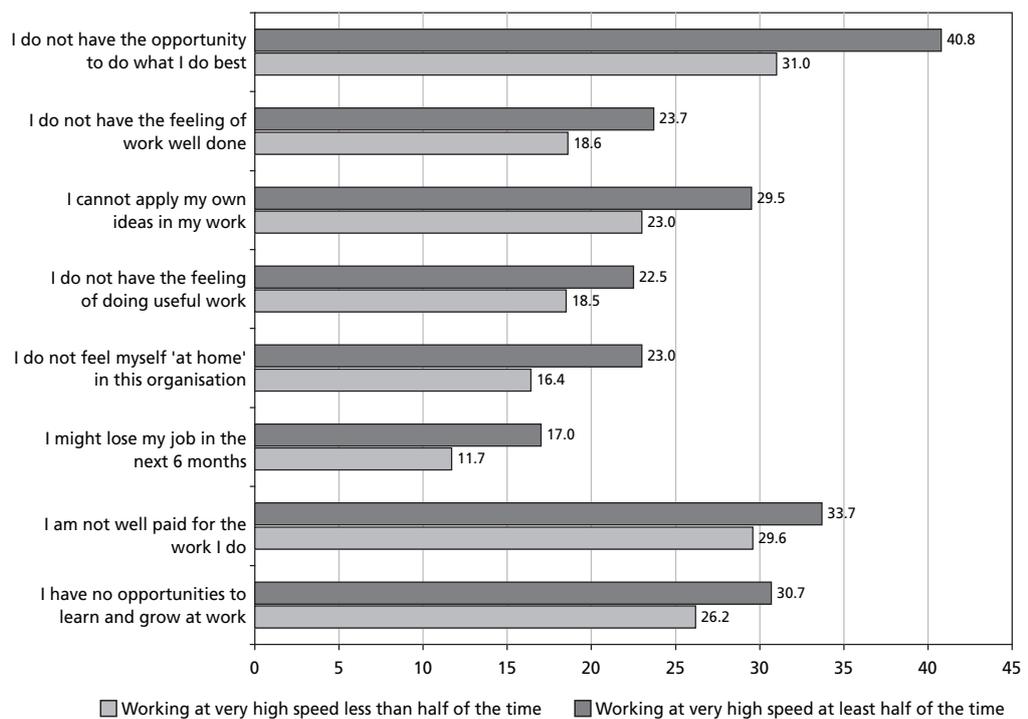
that the effects of intense work are very different from one individual to another, depending on whether the fastest way of operating is safest for them, according to their particular physiological and psychological capacities. Some people cannot cope with intense work; they experience exacerbated anxiety about being fired and have lower expectations of being promoted. However, their colleagues who are able to cope with intense work are comparatively more efficient; therefore, their promotion prospects are enhanced. A study of French data showed that experiencing intense work for a certain period of time actually increases the probability of promotion, as well as the probability of descending on the qualification scale during the following years (Amossé and Gollac, 2007).

In the same way, work intensity as measured by time constraints generally has no clear influence on the probability of being unable to apply one's own ideas at work.

These findings are consistent with Karasek's theory that demanding work may lead to personal development as well as to high job strain, depending on other characteristics of the job (Karasek and Theorell, 1990). It would be inaccurate to say that high work intensity simply worsens work. Its effects are not homogenous. However, it is a cause of 'fragility', because even people who can cope with high work intensity at present cannot be sure that they will be able to do so in the future: for instance, the nature of tasks may change, as well as the employee's health (Gollac and Volkoff, 2001).

In general, the link between perceived intensity and psychological working conditions is clear. Having insufficient time to get the job done is linked with particularly poor psychological working conditions, while the apparent impact of working at very high speed or to tight deadlines is lower, but by no means negligible. For example, 31% of employees who work at very high speed less than half of the time and

Figure 5 Relation between working at very high speed and certain psychological working conditions (%)



Source: EWCS 2005

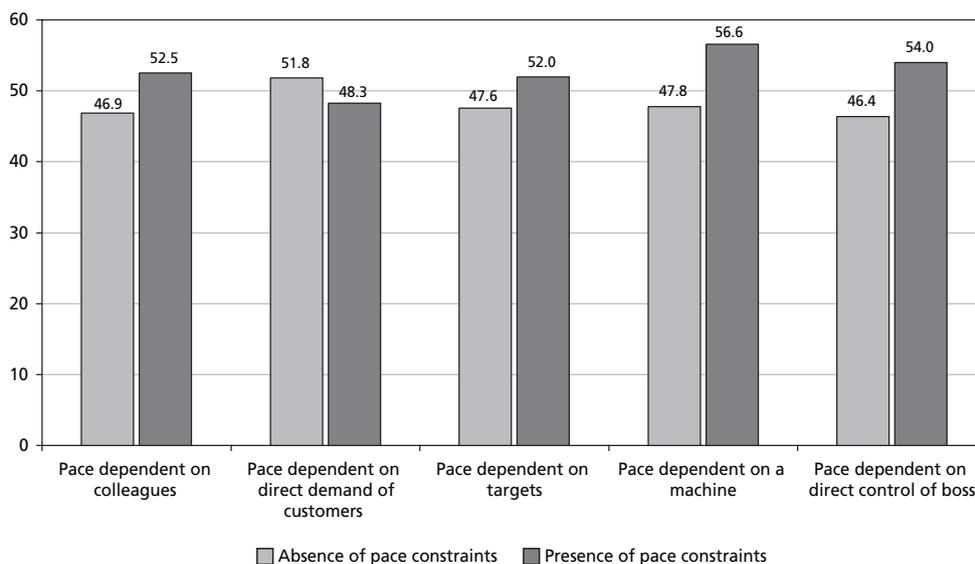
almost 41% of those who work at very high speed at least half of the time state that they do not often have the opportunity at work to do what they do best (Figure 5). The differences between the different psychological working conditions do not seem to be due only to random fluctuations. They are consistent with what was observed previously using pace constraints as measures of intensity. Intense work is particularly likely to be seen as poorly done, useless, unfairly paid and to be associated with the fear of losing one's job. Nonetheless, it may also provide some workers with career opportunities.

The same methodological problem previously mentioned about physical working conditions arises concerning the psychological conditions, when the measures of perceived work intensity are used as exogenous variables.

High work intensity is associated with worsened working conditions; however, workers do not necessarily suffer as a result. When workers are able to cope with it, intensity may be compatible with pleasure at work – it may even cause pleasure. Moreover, many recent organisational changes have led not only to intensification but also to greater complexity of work: work becomes more intense but also more interesting (Hatzfeld, 2006). Confronted by more intense and more interesting work, workers react differently (Campinos, 2000). A study of French data showed that intensity is associated with a moderate decrease in well-being at work and with a substantial increase in feeling pressurised at work – both in its positive and negative aspects – and in the uncertainty that workers feel regarding their job and future career (Baudelot et al, 2003). Feeling higher pressure at work may have important consequences. It may induce voluntary self-investment, leading to economic and symbolic rewards. However, it may also lead to high levels of suffering among workers, because it precludes remaining mentally detached from one's job. In general, work intensity is a risk factor in the long run. Intense work is to some extent incompatible with sustainable work (Docherty et al, 2002).

High work intensity lowers the probability of perceiving work to be sustainable. For example, 47% of employees whose pace of work is not dependent on colleagues feel that they will be unable to do the

Figure 6 Relation between pace constraints and the feeling of being unable to do the same job when 60 years old (%)



Source: EWCS 2005

same job when 60 years old, while almost 53% of employees whose pace of work is dependent on colleagues have the same feeling (Figure 6). Feeling one's job to be unsustainable is a poor psychological working condition in itself, and is probably partly due to the perceived risk of being fired, but also to the feeling that work affects health. All pace constraints are associated with a higher probability of thinking that one's health or safety is at risk because of one's job. However, there is one exception: the dependency of work pace on customer demand has no significant influence. Nevertheless, it is significant for employees who are dealing directly with customers. Another proxy for the feeling of work sustainability is the perception that one will be able to do the same job at 60 years of age. All other things being equal, this feeling is lower when the pace of work depends on colleagues or on production targets. There is a lower link with dependency on the automatic speed of a machine, while no significant link is found in relation to dependency on external demand.

Surprisingly, the link between work intensity and perceived work sustainability is higher for white-collar workers than for blue-collar workers.

In summary, pace constraints are generally, as expected, associated with worsened physical and psychological working conditions. However, two important nuances should be mentioned. Firstly, intense work has different effects on different people. A consequence is that the general link between pace constraints and career prospects is weak, probably because some workers perceive poor career prospects as they cannot cope with work intensity while others perceive good career prospects because they can cope. Secondly, not all of the different types of pace constraints have the same link with working conditions. In particular, the dependency on external demand is, in some cases, associated with poor working conditions, but in many cases the link is weak or even negative. This is confirmed by a study of work absenteeism caused by work accidents or other health problems caused by work. All other things being equal, their probability is higher when the pace of work depends on targets or colleagues – or on the automatic speed of a machine, albeit to a lesser extent. However, the probability of occupational accidents or health problems is slightly lower when the pace of work depends on external demand. In modern organisations, the work of most employees depends on demand. In future waves of the EWCS, it would be useful to include some additional questions on this topic.

Demanding or poorly functioning organisations

When industrial or bureaucratic organisations are redesigned to become more market oriented, they often do not work very well. This may force employees fairly often to interrupt a task that they are busy doing in order to take on an unforeseen task. All other things being equal, the probability that such interruptions occur is considerably higher when the worker experiences pace constraints caused by customer demands or the work done by colleagues. External demand and the way in which the work done by colleagues progresses cannot be predicted precisely; therefore, these aspects may interfere with the worker's own job. In contrast, neither production targets nor the automatic pace of a machine are linked with task interruptions: these constraints are relative to predictable factors and not to unexpected events.

Although production targets are not associated with a higher probability of task interruption in order to take on an unforeseen task, they are associated with disruptive interruptions. The reason is probably that when workers who have to meet precise production targets are interrupted, this interruption makes the targets more difficult to meet – thus, the interruption is perceived as disruptive. It is likely that, in

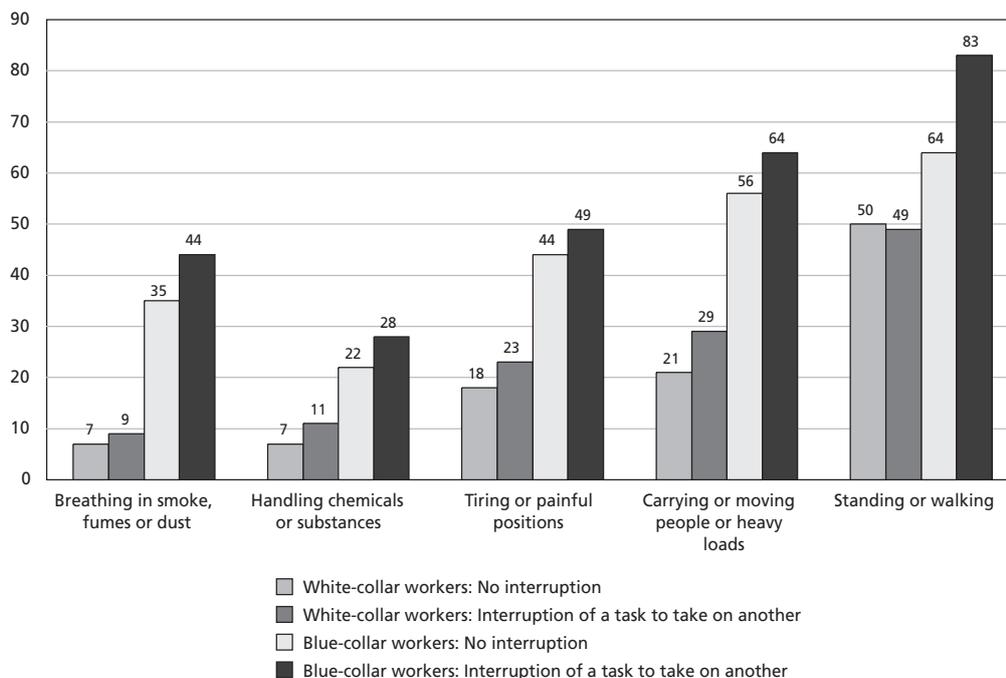
some cases, targets are set assuming that no or few interruptions will occur, although in reality the work process may often be interrupted.

Interruptions may be interpreted in a more general sense as being indicative of poorly functioning organisations; they appear to have a significant influence on working conditions (Figure 7). For example, 7% of white-collar workers who do not experience unforeseen interruptions are exposed to breathing in smoke, fumes or dust, while 9% of white-collar workers who experience interruptions are exposed to these risks. These proportions rise to 35% and 44% respectively for blue-collar workers. The statistical link between interruptions on the one hand and exertions and risks on the other is impressive despite the fact that it cannot necessarily be interpreted causally. This is true for physical as well as for psychological risks and exertions.

Most likely, several interpretations are simultaneously valid. This may be a spurious correlation: well-functioning organisations probably pay more attention to working conditions. Unexpected tasks are often performed without having been well prepared; this lack of preparation includes the manner of doing the work, the tools used and protective devices or equipment. This is a causal link: the lack of preparation causes risks and stress at work which may have been prevented by preparing for the task.

Demanding organisations create intense work and, to some extent, put working conditions at risk. However, a distinction is needed between demanding organisations that work well and those that work poorly – for example, those engendering unforeseen interruptions. The latter are likely to worsen working conditions considerably more than the former.

Figure 7 Relation between unforeseen interruptions and working conditions (%)



Source: EWCS 2005

Intensity and ageing

To some extent, age is a buffer against work intensity. The proportion of workers who experience no pace constraint steadily increases with age. For example, 6% of young workers aged 15 to 24 years and 16% of older workers aged 55 years or more report no pace constraint. In contrast, 43% of young workers and 28% of older workers endure at least three pace constraints.

This difference may seem unjust for younger people, but it is probably a consequence of the necessity of matching job demands and employee abilities. Perceived intensity does not vary much from one age group to another.

This subjective perception has an objective basis. Among employees aged 55 years or older, the number of pace constraints is much more strongly associated with the probability of being absent from work due to occupational accidents or diseases. It is also more associated with some physical symptoms or risks: heavy loads, standing or walking, and exposure to potentially toxic substances. Regarding psychological symptoms, the number of pace constraints is more associated with not being able to do what one does best; lack of satisfaction of work well done; lack of satisfaction of being useful; and feeling poorly paid for the work done. Workers learn with age how to work in ways that suit their declining abilities in certain areas. However, these ways of performing work are not always the fastest.

Intensity, autonomy and social support

Theoretical considerations

As discussed, the ergonomic theory suggests that work intensity has a negative impact on working conditions. The same theory puts forward that autonomy and social support improve them: a hypothesis consistent with Karasek's classical findings on their link with health. If worker autonomy is high, the set of possible ways of doing one's job is large. As a consequence, the probability of finding a possible way of performing work tasks that would preserve the worker's health – according to the worker's own physiological and psychological characteristics – is high. In the same way, when technical and/or social support are available, workers are able to do their job in a way that would not be possible if they had to work alone. Workers can cooperate when doing some tasks that are dangerous or harmful to do alone. They can also benefit from the experience and knowledge of other workers, thereby increasing the set of possible ways of performing.

Evidence from the EWCS

As the ergonomic theory suggests, autonomy is found to be associated with better physical working conditions. This is particularly clear for time autonomy. However, it is also the case for procedural autonomy. The link between social support and good physical working conditions appears to be weaker.¹ Furthermore, with some exceptions, high cognitive job content is associated, all other things being equal, with a higher probability of the various physical risks and stresses measured in the EWCS. It should be noted that the idea that high cognitive content improves physical working conditions is not suggested by the ergonomic theory of activity; thus, this last finding is unsurprising.

¹ Using the 2000 EWCS with a similar methodology, Boisard et al (2003) found a strong link between social support and good working conditions in the 15 EU Member States (EU15) before EU enlargement in 2004.

Regarding psychological working conditions, the findings of this study are straightforward. High autonomy, high social support and even high cognitive content are, in almost every case, linked with a lower probability of every psychological symptom measured in the EWCS.

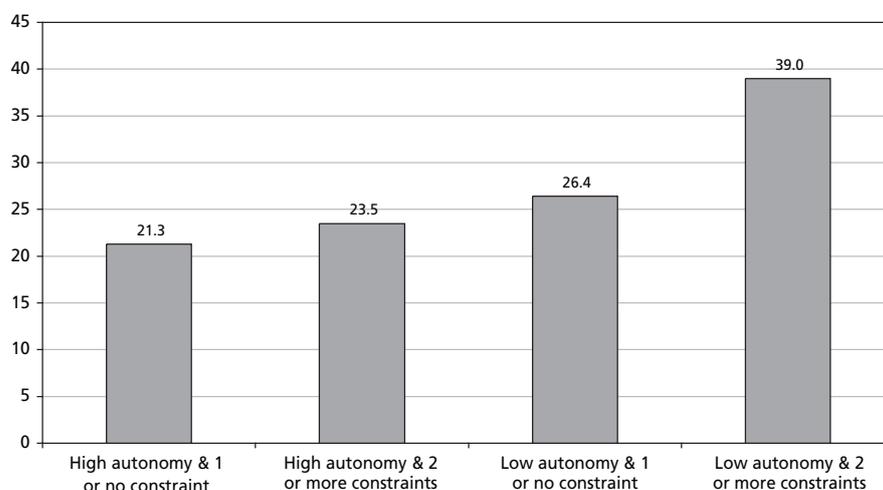
It has been argued that the significance of autonomy at work may change when work intensity is too high. In this case, workers would not have any choice in the way that they perform their tasks, regardless of whether choice is authorised or not (Gollac and Volkoff, 1996). To examine this theory, this study has constructed a variable combining work intensity and procedural autonomy, as Karasek did for job demand and job latitude. A total of four working situations are defined in this instance:

- ‘low strain’ – maximum procedural autonomy and at most one pace constraint;
- ‘activity’ – maximum procedural autonomy and more than one pace constraint;
- ‘passivity’ – below maximum procedural autonomy and at most one pace constraint;
- ‘high strain’ – below maximum procedural autonomy and more than one pace constraint.

This classification was then introduced in the logistical regressions in place of pace constraints and the autonomy index. The findings show that, all other things being equal, activity is associated with better physical and overall psychological working conditions than high strain. For example, 23.5% of workers who have high autonomy and two or more pace constraints are exposed to tiring or painful positions, compared with 39% of workers who have low autonomy and two or more pace constraints (Figure 8). Thus, high autonomy has an effect, even when work intensity is high. The results also show that working conditions are better for workers in low-strain than in passive situations. It should be emphasised that some of the findings are not fully consistent with those of Karasek. As far as the statistical associations in this study can be interpreted in terms of causality, active jobs are not better than low-strain jobs; in fact, the opposite is true.

Regarding the impact of work intensity, active jobs are associated with worse physical working conditions than low-strain jobs are – as is the case for high-strain jobs, compared with passive ones.

Figure 8 Relation between intensity and autonomy and tiring or painful positions (%)



Source: EWCS 2005

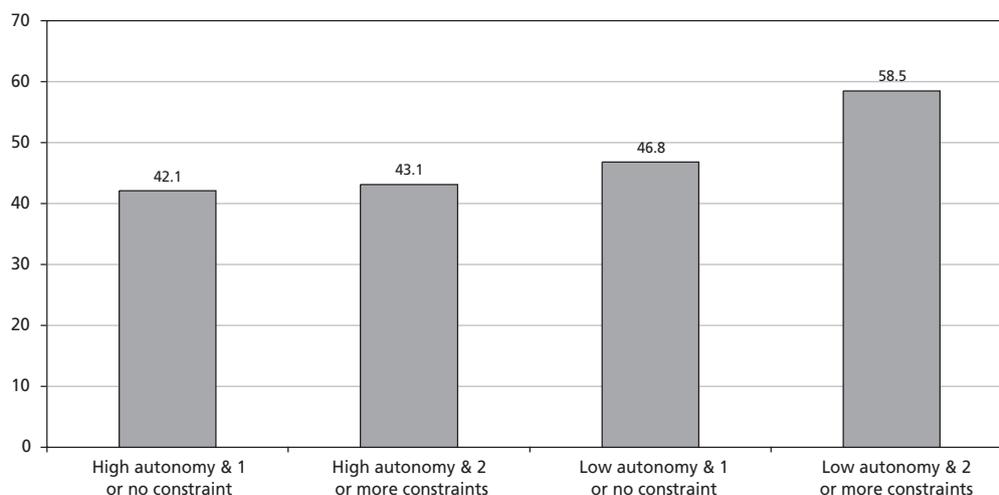
However, active jobs are also associated with less favourable psychological working conditions than low-strain jobs are. The link between high strain, compared with passivity, and the various psychological working conditions depends on the nature of these conditions. High strain is mainly associated with a higher probability of not feeling able to work well, of anxiety about being fired, of not feeling 'at home' in the organisation and of reporting one's work to be monotonous.

As stated, from the perspective of working conditions, active jobs are not better than low-strain jobs. This is the opinion of workers themselves. All other things being equal, workers who experience active work situations are more likely to perceive their work as a potential health risk than those who do low-strain work. Moreover, there is no significant difference between these 'active' workers and the 'passive' ones. Similarly, workers in active situations are slightly more likely than 'low-strain' workers to anticipate that they will be unable to do the same job at the age of 60 years: 43% compared with 42% (Figure 9). There is little difference (3.7 percentage points) between these 'active' workers and the 'passive' workers.

However, the results presented in Figure 9 confirm that high-strain work situations – that is, combining high intensity and low autonomy – are associated with poor physical and psychological working conditions and, as a consequence, put workers' health at risk. Indeed, workers themselves are highly conscious of this. They are also aware that there is a high risk of their not being able to do the same job at 60 years of age. The difference between these and the low-strain workers is substantial: 58.5% compared with 42% respectively.

Therefore, it is interesting to determine the populations in which a high proportion of workers undergo high strain. The definition of high strain used was fairly extensive: no fewer than 38% of employees are classified as being in a high-strain work situation. Clearly, not all of these workers experience poor working conditions, nor is their health at risk in all cases; Karasek's model is based on probability and does not state that risk is only one or zero. Nevertheless, the presence of a large proportion of high-

Figure 9 Relation between intensity and autonomy and the feeling of being unable to do the same job when 60 years old (%)



Source: EWCS 2005

strain workers in certain parts of the workforce suggests that more in-depth investigation into these economic sectors may be useful.

High-strain work is more frequent in the private sector than in the public sector. However, it is not rare in the public sector. No significant differences arise according to the size of the company, except for very small enterprises employing fewer than five persons, where high-strain jobs are seldom found. The proportion of high-strain workers is much greater in the manufacturing and construction sectors than in services. It is particularly high in some industries: textiles (64%), food products (57%), wood products (54%), hotels and restaurants (54%) and chemicals (53%). High-strain work particularly concerns blue-collar workers: the latter represent 49% of high-strain workers although they constitute only 37% of all employees.

The proportion of workers in high-strain situations declines as their education level increases. No fewer than 53% of employees who report low levels of education endure high-strain work. The proportion is about 45% for workers with primary or secondary education, 41% for those with post-secondary education, 37% for third-level graduates and 28% for workers with a doctorate or other advanced research postgraduate degree. The share of high-strain workers also steadily declines as age increases. Thus, younger workers are especially at risk: 50% of 15–24-year-old employees undertake high-strain work. However, there is only a small difference between men and women in this regard, although men are slightly more exposed.

High proportions of high-strain workers are observed in the southeastern and southwestern parts of the EU, especially in Greece (52%), Cyprus (48%), Portugal (48%) and Bulgaria and the Czech Republic (both 47%).

Impact on work–life balance

Work–life balance is an important policy issue and is significantly related to working time (see below). However, the content of work also matters. A company is a place where people can learn, speak with colleagues about various topics and join collective actions, whether work related or not. It is also a place where people may become exhausted and less able to participate in demanding extra-professional activities. Intense work is more likely to exhaust workers. Nevertheless, crucially, in modern organisations, intense work is often complex and interesting: in some cases, it may lead to personal development. Thus, the resultant effect of intense work on work–life balance is not obvious.

To provide some evidence on this topic, this study used logistical regressions in which the dependent variables describe some aspects of work–life balance:

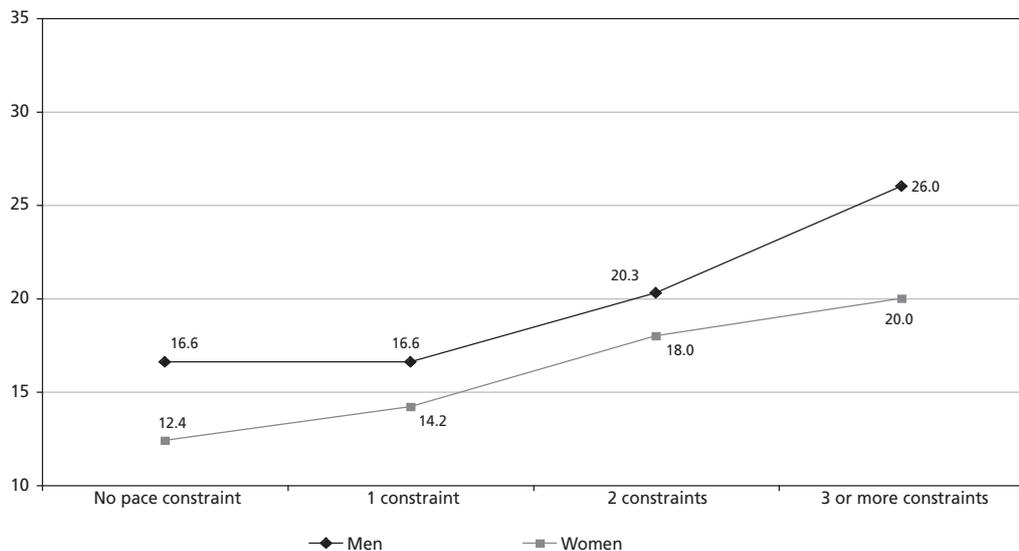
- good subjective evaluation of work–life balance – in general, working hours fit well with family or social commitments outside work;
- domestic work – caring for and educating children every day or every second day; cooking and doing housework every day for one hour or more; caring for elderly or disabled relatives at least once a month;
- participation in civic and cultural life – voluntary or charitable activity at least once a month; political or trade union activity at least once a year; taking a training or education course at least once a month; sporting, cultural or leisure activity outside the home at least every second day.

The analysis controlled for occupation, economic sector, status and size of the company, country, education, age and work duration. The first of these variables is likely to capture some characteristics of the job that may make it tiring, regardless of its intensity. Education determines both the ability of workers to cope with the task and their desires regarding extra-professional activities (Baudelot et al, 2003). Age also determines the ability of the worker to cope with the task. It is moreover linked with family constraints. Member State determines the support available for extra-professional duties – such as childcare – and captures some of the variations due to the translation of the EWCS questionnaire. Lastly, work duration is obviously a crucial determinant of work–life balance.

Because of the gender gap in domestic work, separate analyses were conducted for men and women. For both genders, self-reported work–life balance clearly tends to deteriorate when the worker undergoes several pace constraints. For example, 12.4% of women enduring no pace constraint report that their working hours do not fit in well with their family or social commitments outside work. This share increases to 20% for women experiencing three or more pace constraints. These proportions are 16.6% and 26% respectively for men (Figure 10).

Working hard in one’s job does not eliminate the likelihood of having to do household tasks. Among women, the relationship between pace constraints and the various kinds of domestic work is slight. However, women who undertake intense work are more involved in caring for elderly or disabled relatives. Among men, the analysis finds a generally positive relationship between the number of pace constraints and participation in domestic work. The link between work intensity on the one hand and civic and cultural activities on the other is positive, both for men and women. The link is slight for voluntary or charitable activities and fairly strong for sporting, cultural and leisure activities. In summary, employees who experience high work intensity are, on average and all other things being equal, more active in other areas of their life. However, they complain more about their working hours, which they perceive to be ill-fitting with their commitments outside work. In fact, they would like to do more activities, or at least have more time for them (Baudelot et al, 2003).

Figure 10 Pace constraints and poor work–life balance (%)

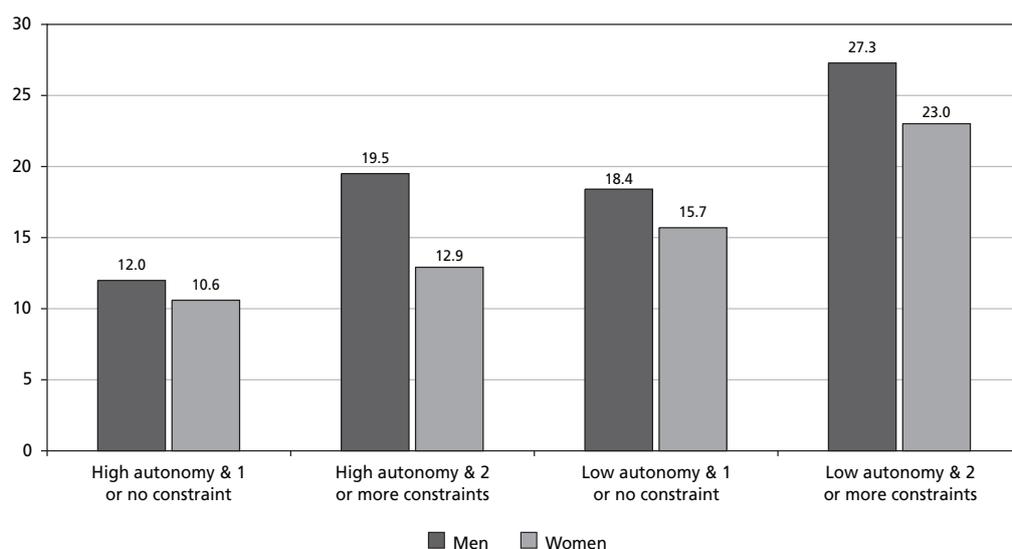


Source: EWCS 2005

Karasek argues that 'active' work – that is, demanding but with high autonomy – was the most likely form of work to offer workers personal development. In order to explore this issue, this study introduced a combination of intensity and autonomy in the regression analyses (Figure 11). 'Active' workers actually participate in many extra-professional activities, taking into account their socioeconomic characteristics. However, compared with 'low-strain' workers, their subjective feeling about work-life balance is less satisfied. For example, 12% of male employees whose autonomy is high and who experience at most one pace constraint report that their working hours do not fit in well with their family or social commitments outside work. This compares with 19.5% of male employees with high autonomy and two or more constraints. The proportions for women are 10.6% and almost 13% respectively.

This result is consistent with the finding of Baudelot et al (2003) that people who have many extra-professional activities are often those who complain the most about being prevented from having more extra-professional activities because of their job. Further research on longitudinal data is required to discover whether this is due to unmeasured variables – for example, that part of cultural capital not captured by the level of education – or to the effects of job intensity on the personality.

Figure 11 Work intensity, autonomy and work-life balance, by gender (%)



Source: EWCS 2005

Increased intensification

Abundant evidence is available of work intensification in developed countries during the 1980s and 1990s (Askénazy et al, 2006). Using various methodologies in different disciplines, many studies reached the same conclusion regarding increased work intensity in several countries, including many European countries, the US, Canada, Australia and New Zealand (de Coninck and Gollac, 2006). However, in many countries, no completely satisfying measures of intensity are available. For instance, in his study of the US, Askénazy used a very indirect measurement.

In the 1990s, the EWCS provided strong evidence of this intensification at EU level (Paoli and Merllié, 2001; Green and McIntosh, 2001; Burchell et al, 2002). Such intensification of work was shown to have occurred in the UK during the 1980s and in the first part of the 1990s (Green, 2006); in France

during the second half of the 1980s and during the 1990s (Gollac and Volkoff, 1996); in Australia and New Zealand during the 1990s (Morehead et al, 1997; Allan et al, 1999); and in the US mainly during the 1980s (Askénazy, 2002).

Causes of intensification

Many causes of work intensification have been considered: organisational change; technological change, especially new information and communication technologies (ICT); persistent high levels of unemployment and fear of unemployment; new ways of managing human resources, including evaluation methods, promotion and wage policies; and higher levels of education in the workforce, which may influence employees to make an effort voluntarily, because they consider their job to be interesting or well paid. Growing competition of capital markets and increasing levels of profitability are also part of the explanation, at least with regard to the 1980s; a strong correlation emerges between intensification and the profit rates at industry level (Valeyre, 2004). Most of these might be associated with globalisation and the opening up of world markets.

There is little agreement among scholars regarding which of these possible causes of intensification actually had a greater or lesser influence. Measuring causal effects would require panel data; this study provides findings from cross-sectional analyses only. The links measured by such analyses cannot be directly interpreted as evidence of causation. They are, however, interesting to consider.

Although work intensity clearly depends on companies' organisation and management methods, no simple link emerges between the implementation of managerial innovation in companies and the intensity of the work of their employees (Greenan and Hamon-Cholet, 2000). Work in general and work intensity in particular strongly depend on local decisions and informal norms, which are not taken into account when only management practices are measured. However, there is evidence of a link between organisational change and work intensification (Green, 2006). In fact, several innovative forms of organisation exist (Lorenz and Valeyre, 2005), leading to different pace constraints and also to different levels of autonomy and cooperation. An intensification of work may occur simply when pre-existing constraints become stricter. This is the case, for example, when production standards increase, all other things being equal, or when the number of workers decreases. This form of intensification was observed during the 1980s and 1990s, for example in the automobile industry (Gorgeu and Mathieu, 2001), and it is currently being observed in the retail trade and services sectors.

However, reorganisations are generally more sophisticated (Gollac, 2005). 'Lean production' organisations, based on the concept of maximising efficiency and eliminating waste, lead to a higher perceived intensity compared with other forms of organisation. Very often, companies build hybrid organisations: industrial and bureaucratic organisations try to adapt to more unstable markets, while market-oriented organisations look for higher workforce productivity by implementing industrial or bureaucratic forms of management. Although these hybrid organisations undergo market constraints, workers often experience pace constraints typical of an industrial-bureaucratic organisation – for example, quantitative production targets.

As an example of the first evolution, it may be useful to consider people who are working on assembly lines in car manufacturing. Previously, the work was identical on each car; therefore, the speed of work was always the same, depending only on the speed of the line, which was decided by the management. Nowadays, however, customers may choose many specifications of the car that they buy. As a result,

on the assembly line, one car is often different from the next; therefore, the speed of work depends not only on the speed of the assembly line, but also on customer demand: the industrial production has become customer-demand driven.

In contrast, the example of a cashier in a hypermarket may be considered. Computers allow the management of the hypermarket to monitor the speed of work of the cashier in a bureaucratic way, through quantitative indicators and standards – for instance, the number of clients or products per hour. However, the work of the cashier remains dependent on variations of customer demand: for instance, if the customer is very quick or slow when handling the products, if they are angry or even if they try to steal some products. The cashier will have to cope with additional obstacles, which will increase the intensity of their work.

Another, complementary explanation for work intensification is ‘effort-biased technological change’ (Green, 2004). Work intensity is correlated with the use of ICT. Field research shows how these technologies may enable managers to monitor and more efficiently control the work of employees (Alonzo, 1998; Prunier-Poulmaire, 2000). However, the main effects of ICT are probably to help smooth fluctuations in production flows (Boggis, 2001) and to facilitate combining industrial-bureaucratic and market-oriented models within organisations (Greenan et al, 2002). ICT therefore offers a prominent example of technologies linked to organisational change. Green (2006) defines the concept of effort-biased technological change to capture the consequences of all forms of technological change, including changes in work organisation.

Workers’ fear of unemployment is a possible reason why workers acquiesce to increased effort (Burchell et al, 2002; Askénazy, 2004). However, some studies have not found a linear correlation between work intensity and fear of losing one’s job (Green, 2006). Improvement of work evaluation is also a way to make employees work harder (Balazs and Faguer, 1996). Finally, some employees voluntarily work hard because they expect economic rewards (bonuses or promotion) or symbolic rewards (inherent interest in the work); generally, these workers have positional authority or a high level of education (Baudelot et al, 2003).

It is worth asking how work intensity will transform during the early years of the new millennium. One might think that work intensification will be an enduring situation because the causes of intensification will probably be ongoing – that is, high levels of unemployment, weak trade unions, new methods of management and higher levels of education.

However, the opposite hypothesis could also be supported. Under this argument, high work intensity is partly caused by a lack of experience in implementing new organisational forms (de Coninck, 2004). Thus, organisational learning will reduce this intensity, at least in the case of companies that have not undergone recent organisational change. Although some authors describe organisational change as a continuous and even accelerating process (de Coninck, 2004), others highlight the existence of periods of rapid organisational change in the recent past (Askénazy, 2002, 2004). Thus, it is plausible that, overall, work intensity would begin to decrease after a period of intensification. This study will refer to this alternative hypothesis as the ‘organisational learning hypothesis’.

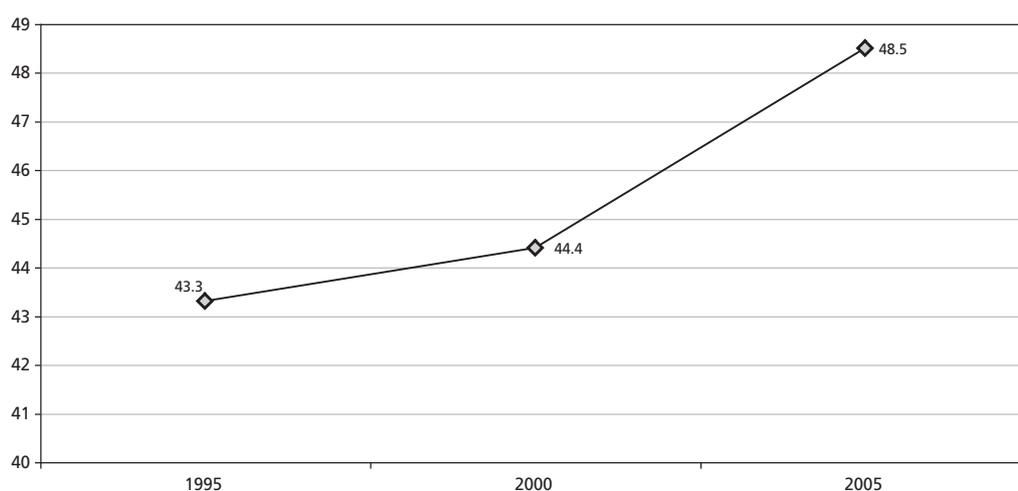
Data from the four waves of the EWCS make it possible to test these alternative hypotheses by comparing the results over the years.

Intensity perceived by employees: Global trend

The question about whether respondents' jobs include working at very high speed or working to tight deadlines has appeared in the EWCS since 1991. These questions use the Nordic scale: responses are not 'yes/no', but 'all of the time/almost all of the time/around three-quarters of the time/around half of the time/around a quarter of the time/almost never/never'. This response model is more fine-grained but makes the interpretation of responses more complex. In the 2005 version of the survey, workers were also asked if they had enough time to get the job done, using the Nordic scale. In 2000, they were asked the same question but the possible answers were only 'yes' and 'no'. Therefore, no comparison can be made between the two waves of the survey for this variable.

Data for the EU15 in 1991 are not available, since Austria, Finland and Sweden were not then members of the EU. In 1995, 43.3% of employees reported working at very high speed at least half of the time (Figure 12). This proportion increased slightly to 44.4% in 2000 but jumped to 48.5% in 2005. Clearly, using this indicator, there is no evidence of a trend to lower work intensity or even to slower intensification of work. On the contrary, work intensity seems to have accelerated – albeit at a moderate pace – during recent years.

Figure 12 Working at very high speed at least half of the time, EU15, 1995–2005 (%)



Source: EWCS 1995, 2000 and 2005

The conclusion is similar using another level of the Nordic scale. However, the proportion of employees reporting that they 'always' work at very high speed decreased slightly over this period. This is consistent with the following hypothesis: work intensification is not mainly the consequence of a specific process, the outcome of which would only make an increasing percentage of people work hard all of the time; it is perhaps the undesired but inevitable consequence of more complex and unstable organisations, requiring intense work for at least part of the time.

The proportion of people reporting that their job involves working to tight deadlines remains relatively unchanged. In 1995, in the EU15, 45.9% of employees reported having to work to tight deadlines at least half of the time. This share increased to 48.3% in 2000 and 50% in 2005. Thus, there is no evidence of a trend towards lower work intensity when using this indicator either.

As noted, measures of perceived work intensity have been available in the EWCS since the first wave of the survey in 1991. They provide the opportunity to investigate long-term work intensity trends, but only for the 12 EU Member States that were included in the 1991 survey. The change in the proportion of employees reporting that they work to tight deadlines at least half of the time suggests that work intensification has been a continuous process, but is perhaps slowing down. However, this deceleration is not unequivocal. The share was 38.8% in 1991, 44.9% in 1995 (+6.1 percentage points), 47.7% in 2000 (+2.8 percentage points) and 49.6% in 2005 (+1.9 percentage points). Turning to the proportion of employees reporting working at very high speed at least half of the time, it was 34.8% in 1991, 42.6% in 1995 (+7.8 percentage points), 43.4% in 2000 (+0.8 percentage points) and 47.4% in 2005 (+4 percentage points). Clearly, such a pattern does not support the idea of a trend towards lower work intensity. It is possible that lower work intensity may resume in the future, but such a hypothesis cannot currently be validated or falsified.

An increase in perceived intensity may have two different causes. Firstly, effort may be higher in some aspects. Secondly, workers may also be more conscious of the tightness of deadlines or of the speed of work.

Pace constraints: Global trend

Looking at pace constraints, the picture is more complex. The change in the percentage of employees whose pace of work is dependent on work done by colleagues supports the hypothesis regarding the trend towards lower work intensity: it strongly increased from 1995 to 2000 and then slightly – but significantly at the statistical 5% level – decreased from 2000 to 2005 (Table 1). The proportion of employees whose pace of work is dependent on the demand of customers (also including passengers, pupils or patients) increased moderately during the first period and very slightly during the second period.

Meanwhile, the evolution of the dependency of pace on the direct control of one's boss does not support the trend towards lower work intensity. This pace constraint was reported by 40.4% of employees in the EU15 in 1995. The proportion declined to 36.8% in 2000 and increased to 38.7% in 2005.

Table 1 Evolution of pace constraints, EU15, 1995–2005 (%)

Pace of work dependent on...	1995	2000	2005
colleagues	40.5	46.7	45.5
customer demand	66.0	68.0	68.6
targets	35.2	30.2	43.6
pace of machine	21.3	20.0	19.1
control of one's boss	40.4	36.8	38.7
norms	71.0	68.3	73.1

Source: EWCS 1995, 2000 and 2005

In typical industrial or bureaucratic organisations, the pace of work is dependent on the pace of machines or is monitored by standards. Unfortunately, the corresponding question Q21C of the 2005 EWCS ('On the whole, is your pace of work dependent, or not, on numerical production targets or

performance targets?') is not identical to that in the 1995 and 2000 waves of the survey ('On the whole, is your pace of work dependent, or not, on production norms?'). Thus, it is not possible to examine trends in industrial-bureaucratic pace constraints.

In fact, the new, complex forms of work organisation cause work intensification, not only because they augment single types of constraints, but because they subject people to several forms of constraint. This means that, for instance, a worker enduring an industrial-bureaucratic constraint is increasingly likely to be simultaneously experiencing customer demand constraints. Firstly, organisations increasingly mix industrial-bureaucratic and market-oriented organisational types (Gollac and Volkoff, 1996; de Coninck, 2005); secondly, these hybrid organisations do not work well and bosses have to monitor and control work, although this is generally contrary to their normal way of operating. Clearly, this contradicts the optimistic view of organisational learning. According to this scenario, organisations are expected to change and adapt to that change. In fact, it seems that organisational changes are ongoing and occur too often to allow companies to adapt and become well-functioning organisations.

As a consequence, an increasing proportion of workers experience several pace constraints simultaneously. In 1995, in the EU15, 62% of workers reported that their pace of work was dependent on two or more constraints. The share of workers giving this answer was slightly lower in 2000 (61.1%) but was higher in 2005 (64.3%). It should be noted however that the change in the question about production standards or targets may introduce a bias.

This trend is not a pure consequence of structural effects. Even controlling for the impact of the changes by occupation, tenure, work duration, gender, age, sector, size of company and country, the mean number of pace constraints for the EU15 active population was higher in 2005 than in 2000. Overall, the hypothesis of organisational learning and a trend towards lower work intensity is not validated. This does not necessarily mean that no organisational learning is possible or even that none has occurred, but only that it was not the main trend at the beginning of the new millennium.

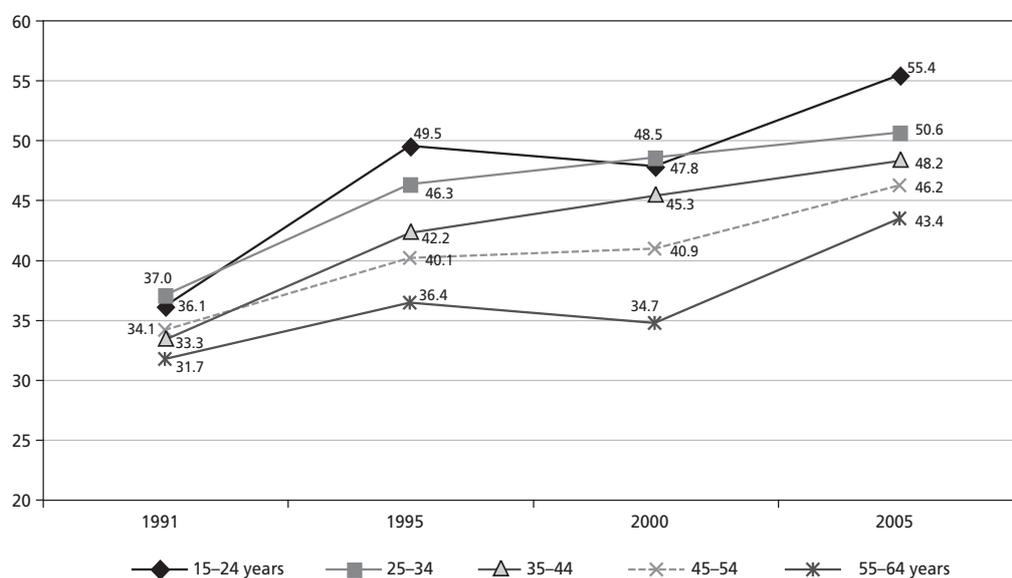
Specific populations

It is interesting to investigate whether the hypothesis of a trend towards lower work intensity is validated or falsified for some populations, sectors or countries. Examining this issue is fraught. Due to the limited size of the EWCS samples, it is not possible to study very small, homogenous populations; therefore, categorisation is required. Such analyses cannot be definitive. This study presents only preliminary evidence regarding populations defined according to traditional – but perhaps obsolete – classifications. Further research may lead to different conclusions.

Trends of perceived work intensity are similar for men and women. However, the proportion of female employees required to work at high speed increased particularly rapidly from 1991 to 1995 and then rose more slowly than for men from 2000 to 2005.

Overall, the trend was more important for younger employees; however, during the last period of analysis, it appears to be more significant for older employees (Figure 13). Note, however, that the size of the survey may be responsible for random fluctuations.

Figure 13 Evolution of working at very high speed more than half of the time, by age, EU15, 1991–2005 (%)



Source: EWCS 1991, 1995, 2000 and 2005

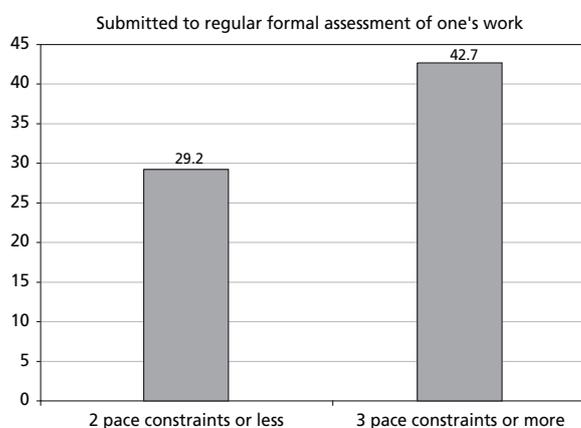
Trends of perceived work intensity are very different from one occupational class to another. For non-qualified blue-collar employees, the proportion of those exposed to working at very high speed at least half of the time slowly increased from 1995 to 2005, while the share of those subject to tight deadlines increased and then decreased, so that the overall trend is moderate; there are no comparable EU15 data for 1991. Qualified blue-collar employees experienced a substantial increase in perceived work intensity, especially during the last five-year period of analysis. The trend for less-qualified white-collar employees is similar, but at a slower rate. Finally, for more qualified white-collar employees, perceived work intensity grew slowly from 1995 to 2000 and then remained stable. It is the only occupational class (using this very broad classification) for which the trend resembles the predictions of the organisational learning hypothesis.

Similarly, the only economic sector in which the trend of perceived intensity resembles the prediction of the organisational learning hypothesis is public administration, where working at high speed stabilised during the last five years and working to tight deadlines grew very slowly during the same period. In the other sectors, with the exception of agriculture, perceived work intensity clearly increased from 2000 to 2005 in the EU15.

Causes of intense work

Looking at the 27 EU Member States (EU27), this study has examined the link between work intensity and certain variables of the EWCS that measure the use of ICT, fear of unemployment, the implementation of financial incentives, evaluation methods and the level of workers' education. The analysis has controlled for occupation, sector, size of company, country, tenure, age and gender. Figure 14 shows the results for employees subjected to a regular formal assessment of their work. Just over 29% of employees experiencing at most two pace constraints are subject to such an assessment, compared with almost 43% of employees enduring three pace constraints or more.

Figure 14 Relation between number of pace constraints and work evaluation (%)



Source: EWCS 1995, 2000 and 2005

All other things being equal, employees with a fixed-term employment contract do not undergo different pace constraints from those with other types of employment contracts, nor is there any great difference in their experience of working to tight deadlines or working at very high speed. Nevertheless, fixed-term workers were more likely to report that they work at very high speed and lack time to get the job done.

Regarding the link between work intensity and the use of computers or of the internet, the findings generally support the idea of effort-biased technological change but introduce some important nuances. The use of computers and of the internet is strongly correlated with the number of pace constraints. Perceived work intensity mainly depends on the frequent use of those technologies, while using them rarely is not linked with a higher probability of perceiving work speed as high or deadlines as tight; it is even the contrary in some cases. There is no obvious link between the intensity experienced by workers and their level of education.

Incentives seem to be efficient: the coexistence of several pace constraints is positively linked with productivity payments, including piece rates, and this is also the case for working at very high speed or to tight deadlines.

As hypothesised in advance on the basis of field research, a formal assessment of work performance is associated with the presence of pace constraints and higher perceived work intensity. Frank discussions with bosses about work performance are also associated with higher work intensity.

Towards a soft intensity

As was shown previously, the organisational learning hypothesis – predicting that work intensity will decrease after an increase – is not supported by the evidence, at least for the time being, at EU level. However, a variant of this hypothesis is equally interesting to test. In this variant, organisational learning would not reduce time constraints but would make dysfunctions rarer and intensity easier to cope with.

This analysis compared the links between pace constraints and working conditions in analogous logistic regressions in 2000 and 2005. A problem arises regarding pace constraints because the 2005 EWCS measures production targets, while the 2000 EWCS measures production standards. Nonetheless, this

study attempted to make the comparison. For technical reasons, the comparison was made at EU15 level.

All other things being equal, the links between pace constraints and the main part of physical symptoms, risks and irritants often changed between 2000 and 2005, but not in a convergent manner. However, the number of cases where the association between pace constraints and poor physical working conditions was weaker in 2005 than in 2000 appeared to be higher than the number of cases where it was stronger. As previously mentioned, the link at a given date between pace constraints and working conditions may be partly spurious. It is possible that it is this spurious effect that has decreased from 2000 to 2005, introducing a bias. However, there is no obvious explanation.

The 2005 French working conditions survey shows a certain decrease in work demands, mostly through a reduction of disruptive interruptions and of tensions with clients. Unfortunately, it is not possible to test whether such a trend occurred at EU level, because disruptive interruptions are only measured in the 2005 version of the EWCS, while tensions with clients are not measured. The questionnaire could be improved on the latter point for the next wave of the survey.

In summary, the findings give some support to the variant of the organisational learning hypothesis. While companies did not limit work intensity, they seem to have learned to limit at least some of its consequences. However, this improvement does not influence all of the consequences of work intensity. In some cases, its links with poor physical working conditions were even more serious in 2005 than five years earlier.

It may be that organisational learning is more important in some parts of the EU than elsewhere. Thus, both with the work intensity trends and with the analysis of changing coefficients in this section, it might be interesting to investigate the differentiation across countries. Perhaps organisations may be in some sense less advanced in some parts – for example, in the transition economies. It would be useful to investigate this topic further.

Conclusion

This study has shown a strong statistical correlation between excessively intense work and poor working conditions. Pace constraints are associated with an increased probability of experiencing physical risks and symptoms. They are also associated with a greater probability of feeling that one's work is unsustainable and with several other harmful psychological working conditions. However, people who are able to cope with high work intensity are likely to have improved career expectations. High intensity is not correlated with poor working conditions in the case of every worker, but it does put work at risk. Firstly, intense work may be experienced as interesting, pleasant or rewarding by some workers. Nonetheless, even for these, it is not certain that it is sustainable in the long term (Baudelot et al, 2003). Secondly, if some workers cannot cope with work intensity, work group cohesion will vanish, entailing a risk of lower cooperation in the long run. It might be argued that organisations that provide very intense work – and may, as a consequence, be dangerous for some of their members – are not satisfying, even if they are not dangerous for all of their members. Another point to emphasise is that the impact of work intensity depends on other organisation characteristics, such as work autonomy or social support, even if a very high work intensity probably cannot be entirely compensated.

No clear evidence exists of a trend towards lower work intensity at EU level. Intensity is linked with new forms of organisation, using new management methods and new ICT. However, it is important to note that work intensity is particularly perceived as high in poorly designed or poorly functioning organisations and, moreover, that these poor organisations have a particularly detrimental effect on all working conditions.

This chapter explores the variability in working hours for employees, both in terms of quantity and whether they are ‘standard’ or ‘unsocial’ hours. It then goes on to examine the relationship between working hours and job content. The chapter concludes by looking at the relationship between working time and subjective outcome measures of work–life balance.

Working hours are vital to satisfactory employment. It is well known that long working hours – usually more than 48 hours a week – have a number of detrimental effects on the quality of working life. For example, working long hours and working outside of normal hours have a large, negative impact on work–life balance measures. Therefore, the European Council Directive 93/104/EC concerning certain aspects of the organisation of working time and its replacement, Directive 2003/88/EC – known as the working time directive – have been an explicit attempt to reduce the incidence of excessive working time. As well as the direct effects of working hours, they can also have an impact on working conditions such that longer working hours might be associated with more arduous working conditions while shorter working hours might be associated with fewer possibilities for learning and training, as well as reduced opportunities for promotion or career advancement.

Self-employed workers are considered separately in Chapter 4. This is partly because working hours are markedly different between employees and self-employed persons. There are also important differences in the role of legislation in shaping hours of work. Unlike many other aspects of working conditions, employees’ hours of work are relatively easy to quantify and apply legislation to, such as the working time directive. However, self-employed people are often considered as being beyond the reach of working time legislation, so attempts to protect them from harmful working time regimes have to take different forms.

Hours worked

In each EWCS wave, respondents were asked ‘How many hours do you usually work per week in your main paid job?’; further instructions were given to interviewers to exclude lunch breaks and travelling time if respondents enquired about these. It is interesting to note that this is different from some other labour market surveys that ask about contracted hours of work or hours worked in the previous week.

Gender gap

Along with employment status, a second major structuring variable in working hours is gender. In every single EU27 Member State, the average working week for male employees was greater than that for female employees. As Table 2 shows, this gap varies greatly between countries, from only one hour a week in Bulgaria to 10 or more in Ireland, the Netherlands and the United Kingdom (UK); nonetheless, it is in the same direction for every single country. Similarly, the proportion of employees working part time – defined here as 30 hours a week or less – is 32% for female employees but only 7% for male employees. Given the magnitude of these gender differences, throughout this chapter the analysis of employees’ working time data will be performed separately for men and women.

Table 2 Mean weekly working hours of employees and the gender gap, EU27, by country

	Men	Women	Gender gap
NL	37	26	-12
UK	40	29	-11
IE	40	30	-10
IT	39	31	-8
BE	39	31	-7
MT	42	35	-7
AT	40	33	-7
LU	40	33	-7
DE	40	34	-7
EU27	40	34	-6
EL	43	37	-6
SE	40	35	-6
HU	44	39	-5
DK	38	33	-5
ES	41	36	-5
CZ	43	39	-4
FR	37	33	-4
SK	44	40	-4
LV	43	39	-4
FI	39	35	-4
PL	43	39	-3
EE	41	38	-3
CY	41	38	-3
LT	42	39	-3
RO	45	42	-3
PT	41	39	-2
SI	42	40	-2
BG	43	42	-1

Notes: The gap in working hours presented above sometimes appears to be more or less than the difference between the hours shown for men and women, due to rounding of data.

See country codes at start of report.

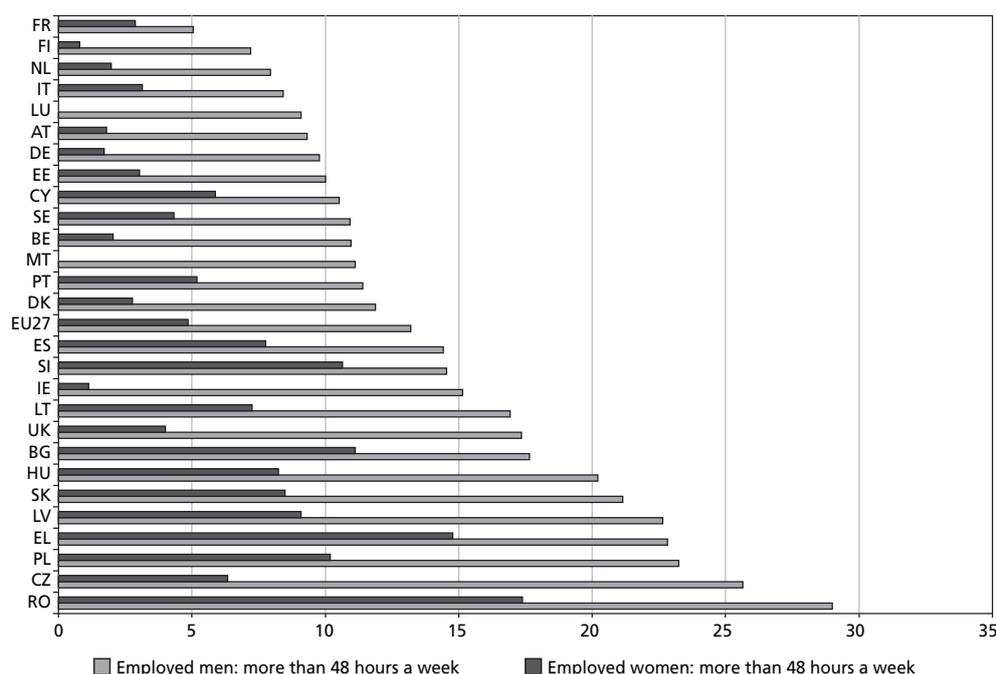
Source: EWCS 1995, 2000 and 2005

A similar argument could be made for separately analysing the various countries or groups of countries to gain an understanding of the large differences in working time patterns between Member States, and the considerable gender differences in labour market participation between countries. However, space and sample size make separate analyses for each country impractical. It was hoped to be able to analyse the data by country groups – for example, Mediterranean, Scandinavian or Anglo-Saxon – but it proved difficult to derive, empirically or theoretically, a set of country groupings that provided consistently homogenous clusters. For example, the Netherlands and Sweden are similar in terms of their welfare systems, but have very different levels of part-time work. Therefore, for most of this report – apart from time-series analyses – the data from all 27 EU Member States are aggregated; however, the richness of the findings could be considerably improved by carrying out a more detailed analysis.

The size of both the gender and country effects is again evident when looking at the proportion of employees in each Member State who work more than 48 hours each week; the latter is the threshold established in the working time directive as a measure of ‘overworking’. In the EU27, this situation applies to over 13% of men but less than 5% of women. Figure 15 shows that the variability between

countries is considerable. In six of the new Member States (NMS) – the Czech Republic, Hungary, Latvia, Poland, Romania and Slovakia – over 20% of men work more than 48 hours a week, but this is true of only one of the EU15 (Greece). These national variations stem from a combination of institutional differences that shape working time arrangements, including working time policy and regulations, economic conditions and labour demand. The availability of childcare and other work-family reconciliation measures are also important factors for women's work patterns. Later in the chapter, occupations will be explored as another significant source of inequality in working hours.

Figure 15 Long working hours for full-time employees, by gender and country (%)



Source: EWCS 1995, 2000 and 2005

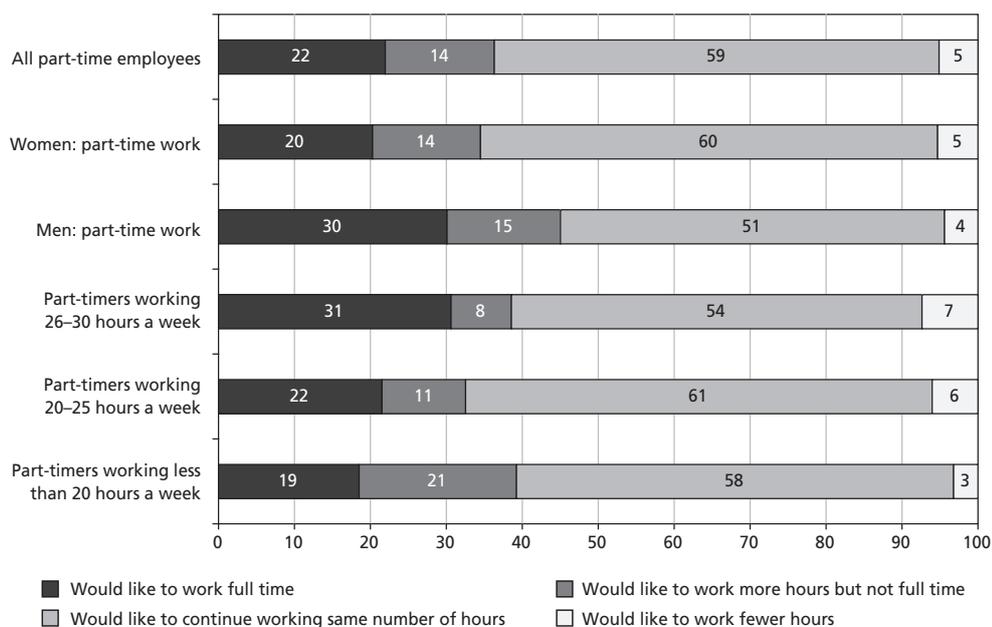
Working time preferences of part-time workers

The reasons why women and men work part time are quite different. The most common reason given by women is that they also look after children or have other domestic responsibilities, whereas male part-time workers are mainly students, young labour market entrants or older men with poor health or approaching retirement (Delsen, 1998; Fagan et al, 2001).

Over one-fifth of part-time employees would prefer to work full time and another 14% would like longer part-time hours (Figure 16). A higher proportion of male part-time workers are in this position involuntarily; nevertheless, almost one-fifth of female part-time employment is involuntary and this amounts to a larger share of the female workforce as a whole, given that the rate of part-time employment is much higher for women. Part-time workers with short working hours (22%) are less likely than other part-time workers (31%) to want full-time hours, but more of them want to work longer part-time hours: 11% compared with 8%. Overall, the majority of part-time employees (59%), whatever their working hours, express a preference to continue with the same working hours. Taken at face value, this suggests that the majority of part-time workers have chosen their situation and that only a minority would prefer to be in full-time jobs. Nonetheless, as with any hypothetical 'what if' question, the

interpretation of responses is equivocal. Perhaps the responses might not have looked so positive had the workers been asked: ‘If your partner did an equal share of the domestic chores, or if better and more affordable childcare facilities were available, then would you want to work full time?’

Figure 16 Working hour preferences among part-time employees (%)



Notes: Part-time employment is defined as 30 working hours or less a week. Some of the figures add up to slightly more or less than 100% due to rounding of data.

Source: EWCS 2005

Changes over time in EU15

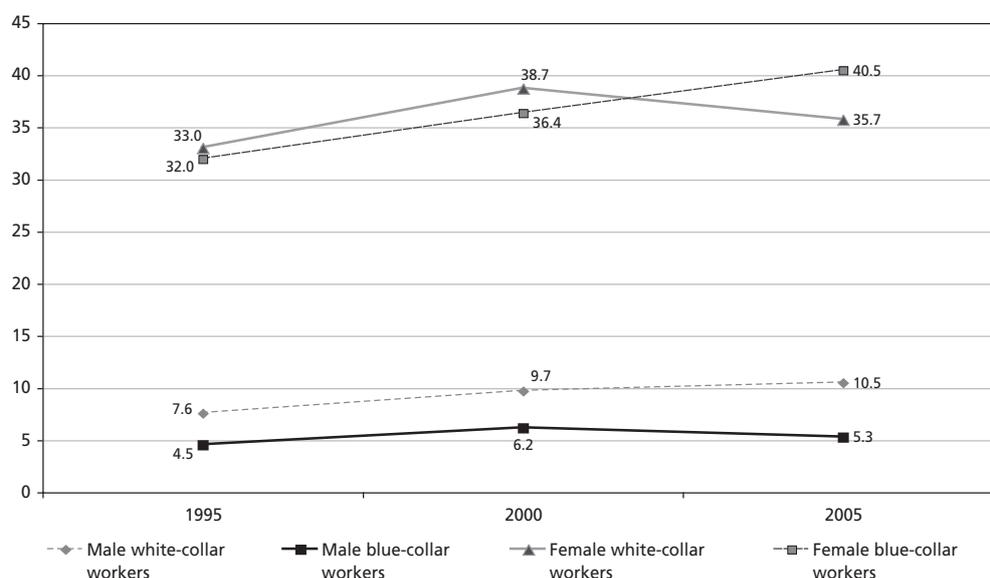
The EWCS allows several opportunities to examine change over time meaningfully. This section will consider changes in the EU15 between 1995, 2000 and 2005. The following section will examine changes in the post-transition eastern and central European NMS between 2001 and 2005.

Working hours and part-time work

Working hours continue to evolve across Europe, although these trends are rarely smooth or gentle over decades. In the EU15, considerable evidence emerges of stability over time and change seems to be the exception. Thus, unless stated otherwise, it may be assumed that no mention of a clear trend over time means that no discernable trend was found.

Take, for example, the prevalence of part-time work, as defined by usually working 30 or fewer hours a week in one’s main paid job (Figure 17). In the 1990s, there was an increase in the proportion of both men and women working part time in most of the EU15. However, the rates of part-time work stabilised with almost no change for men or women over the period 2000 to 2005. An increase in part-time work was found for female blue-collar workers, but this was offset by a slight decrease for the more numerous female white-collar workers.

Figure 17 Employees working 30 hours or less a week, EU15, 1995–2005 (%)



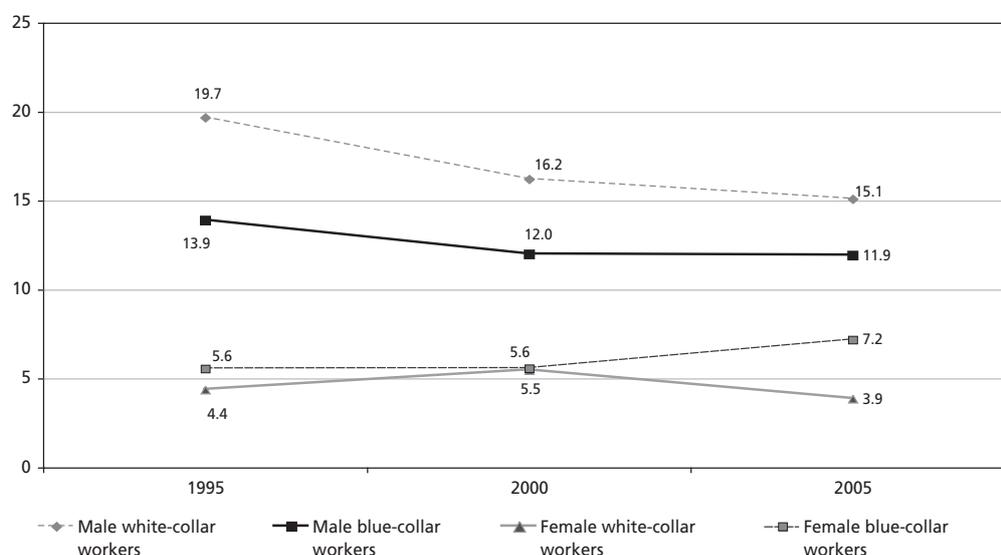
Source: EWCS 1995, 2000 and 2005

However, looking at short part-time work, one very marked change is apparent: the number of employees normally working eight or fewer hours a week has increased markedly over the 10 years from 1995 to 2005. Over this period, the number of these ‘mini-jobs’ has grown from close to 0% to over 1% for men, and has doubled for women. Although still representing a small proportion of all employees, such a substantial rise is worthy of further exploration. The effect was checked against the change in working hours in the EU15 between the first round (2001–2002) and the second round (2003–2004) of the European Social Survey (ESS), and an increase was also detected in these data; therefore, the possibility of a statistical or methodological error may be ruled out.

In terms of policy implications, little is known about these mini-jobs, in terms of who takes them or their working conditions. One might guess that such jobs have the same disadvantages in terms of learning skills, supervising others and career progression as other part-time jobs, but perhaps even more so. Recent evidence (Booth and van Ours, 2007) has, however, suggested that women’s satisfaction with their working hours and with their job is higher for part-time workers, and that their life satisfaction is unaffected by their hours of work. Therefore, these mini-jobs might provide the benefits of an attachment to the labour market and the associated social inclusion for employees who would otherwise be excluded from the labour market.

A slight decline can be seen in the proportion of EU15 employees working 48 or more hours a week over the period 1995 to 2005; however, in the period 2000 to 2005 there was a slight increase in long working hours for blue-collar women (Figure 18). Wider analyses suggest that the decline in long working hours for employees was greater in the period 1995 to 2000, but that the decline for self-employed workers – who have much higher rates of long working hours – took place in the later period of 2000 to 2005. Again, this finding is supported by analyses of the ESS.

Figure 18 Employees working 48 hours or more a week, EU15, 1995–2005 (%)



Source: EWCS 1995, 2000 and 2005

Work–life balance

In both 2000 and 2005, workers in the EU15 were asked about the fit between their working hours and their family and social commitments: ‘In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well?’ The changes in the results for this variable have generally been a reduction in both extremes of satisfaction and dissatisfaction.

Only a small proportion of all workers – about 6% of men and 3% of women – describe the balance between work and non-work as fitting ‘not at all well’, and this share has declined between 2000 and 2005. A much higher percentage of workers express the highest level of satisfaction with their work–life balance permitted on the four-point scale; nevertheless, there has also been a net reduction in this most satisfied group. The exception is white-collar men – the same group that has seen a marked reduction in long working hours.

Commuting time

One cause of dissatisfaction with working hours and quality of life is the amount of time that people spend travelling to and from their place of work each day. In the period 1995 to 2000, a slight reduction was found in the proportion of workers who spent more than an hour commuting each day. However, in the period 2000 to 2005, this trend reversed in the EU15, with a higher percentage commuting for more than an hour each day within each of the gender and broad occupation categories.

Changes in post-transition NMS

The third and fourth waves of the EWCS make it possible to describe the changes in working conditions in the eight post-communist countries that joined the EU in 2004: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Working hours and part-time work

While there has been little change in the proportion of part-time workers in the EU15, the eight NMS under study have experienced a decline in white-collar male part-time work and an increase in blue-collar female part-time work. Thus, during this transition period, the NMS have moved towards the marked gender difference in part-time work found in all of the EU15.

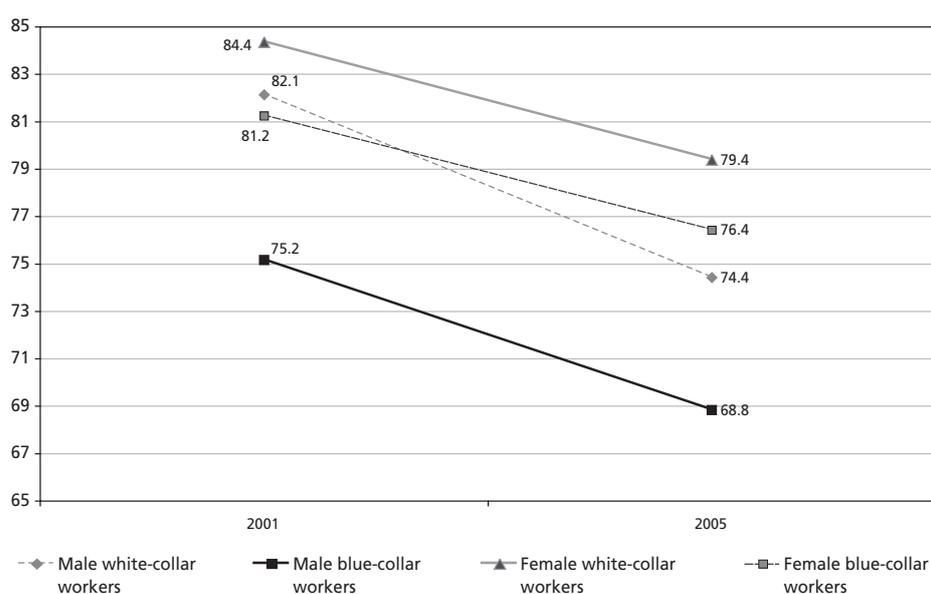
There has also been an increase in the proportion of male employees – or, more specifically, white-collar men – working more than 48 hours a week. This situation is not found for women; the increase in long weekly working hours for blue-collar female employees is offset by a decline in this regard for white-collar women. This is a different pattern to the EU15, where a decrease in long working hours was reported over the period 1995 to 2005.

In both cases, evidence emerges of the NMS becoming more similar to the EU15 in terms of the gender gap in working time. The exact mechanism for this change is not clear, but it might be partly due to a dismantling of the welfare and childcare regimes that had facilitated women's employment under state socialism. Without this support, families may have regressed to a more traditional domestic division of labour, causing a polarisation in the working hours of women and men.

Work-life balance

There has been a clear reduction in the perceived fit between work and family or social life in all of the gender and broad occupational categories of employees in the eight NMS under study. The proportion in the lowest satisfaction group has remained low with little change; however, a marked decline is apparent in the percentage describing the fit between work and non-work as good or very good for both men and women, and for both white-collar and blue-collar workers (Figure 19). This is somewhat puzzling, given that some of these groups experienced a reduction in long working hours; such hours

Figure 19 Working hours fit in well or very well with family or social commitments outside work, NMS, 2001–2005 (%)



Note: The figure refers to the eight post-communist NMS that joined the EU in 2004.

Source: EWCS 2001 and 2005

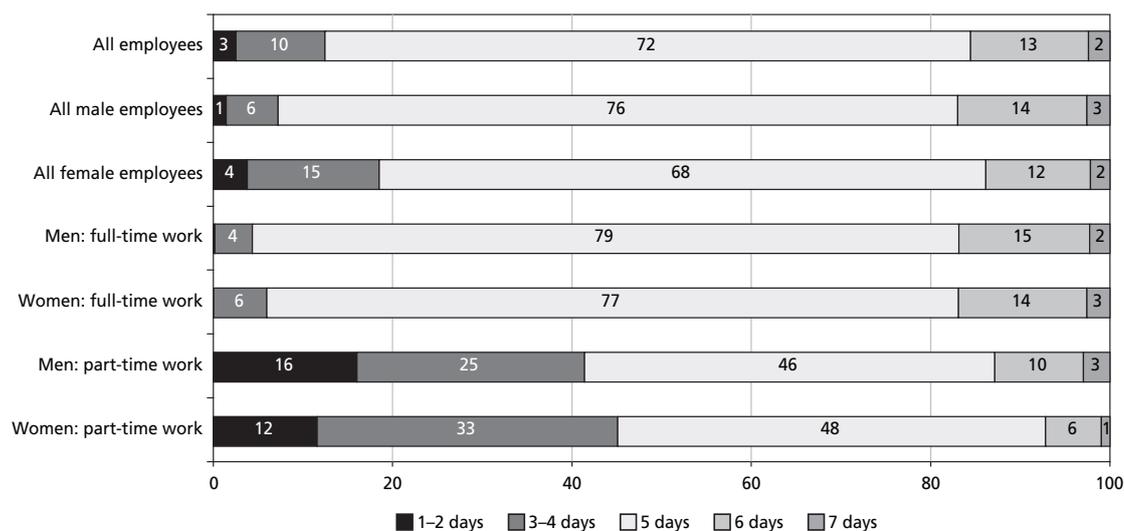
are known to have a negative effect on work–life balance. Moreover, others had experienced an increase in part-time work, which is associated with increased satisfaction with work–life balance. This might support the suggestion that, where reductions in working time have been observed in the eight NMS under consideration, these have been forced by domestic circumstances – such as a reduction in government-funded childcare – rather than being chosen to increase the quality of family or social life.

Variability in working hours

Standard and non-standard schedules

Some gender differences are evident in working time schedules, but overall they are less pronounced than those in the number of hours worked. Much popular discourse concerns the ‘24/7’ week – meaning services being available 24 hours a day, seven days a week – where activities are no longer bounded by traditional office or shop opening hours. It may therefore seem surprising to observe that more than three-quarters of full-time employees (79% for men and 77% for women) work a standard five-day week (Figure 20).

Figure 20 Number of days worked a week (%)



Note: Some of the figures add up to slightly more than 100% due to rounding of data.

Source: EWCS 2005

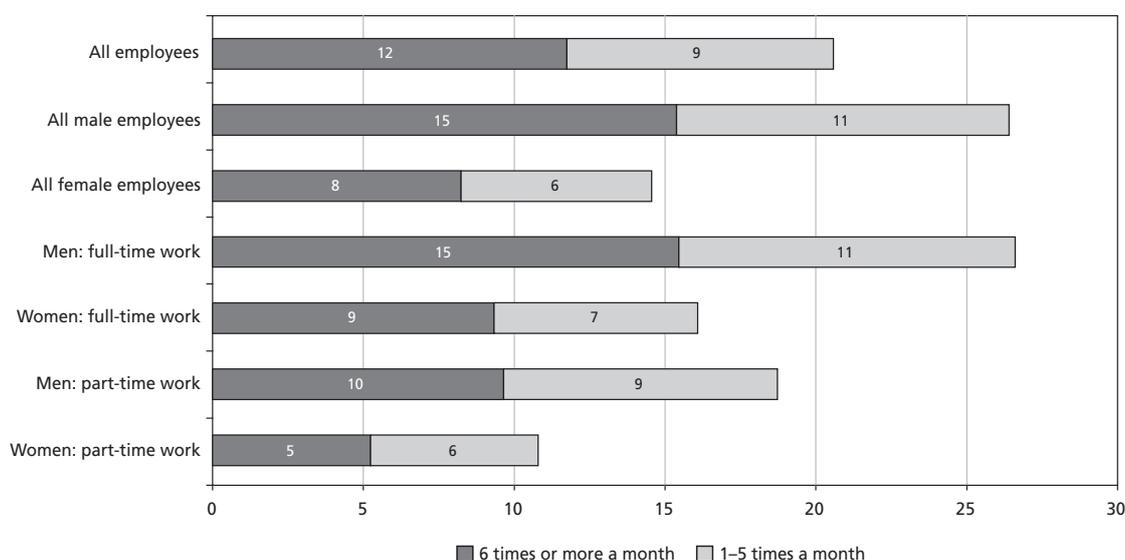
Men are more likely to work more than 10 hours a day. This is mainly a feature of full-time jobs: it is a regular occurrence (five or more times a month) for more than a fifth of male employees and one in 10 female employees. Such long working days are much less common for part-time employees than for full-time workers.

As suggested above, if the ‘24/7’ economy is developing in terms of consumption and leisure occurring at all hours of the day and week, then this is happening without a corresponding expansion in the proportion of people working outside ‘standard’ working hours. Time series data indicate very little change over the last 10 years in the share of people working evenings, nights or at weekends (Evans et al, 2001; Parent-Thirion et al, 2007). Nevertheless, working on a Saturday or during the evening is relatively common. The proportion of people working on Sunday or at night is lower but still fairly

widespread: more than one-quarter of employees work at least one Sunday a month and 21% work at least one night a month (Figure 21).

Male employees do the most evening, night and weekend working. Evening and night work is more common for full-time workers than part-time workers for both genders. Weekend work is more common for women if they work full time; however, for men, it is the part-time employees who are more likely to work weekends. Part-time employees are least likely to work evenings or nights; there is no evidence of a systematic increase over time.

Figure 21 Night work for employees (%)



Note: Night work refers to at least two hours of work carried out between 22.00 and 05.00.

Source: EWCS 2005

Organisation of working hours

Overall, female employees' work schedules – with higher rates of fixed days, fixed hours and fixed start and finish times – are slightly less variable than men's schedules. Since part-time workers tend to have more variable schedules than full-time employees, male part-time workers have the most variable schedules of any group. However, to understand the impact on work–life balance, it is crucial to know who controls this variability of work schedules. If it is at the whim of the employer, such variability might have a negative influence on employees' ability to plan family and leisure time; on the other hand, if it is a sign of employee control over their working life, the effects ought to be positive.

Few gender differences emerge in the proportions of employees with different forms of working time autonomy. Two thirds of workers have their working hours set by their employer with no possibility of changing them, but the remaining third have scope to determine their hours or adapt them within limits. In this respect, employees are very different from employers, who claim that they have much higher levels of working time autonomy.

Occupational differences in men's and women's working time

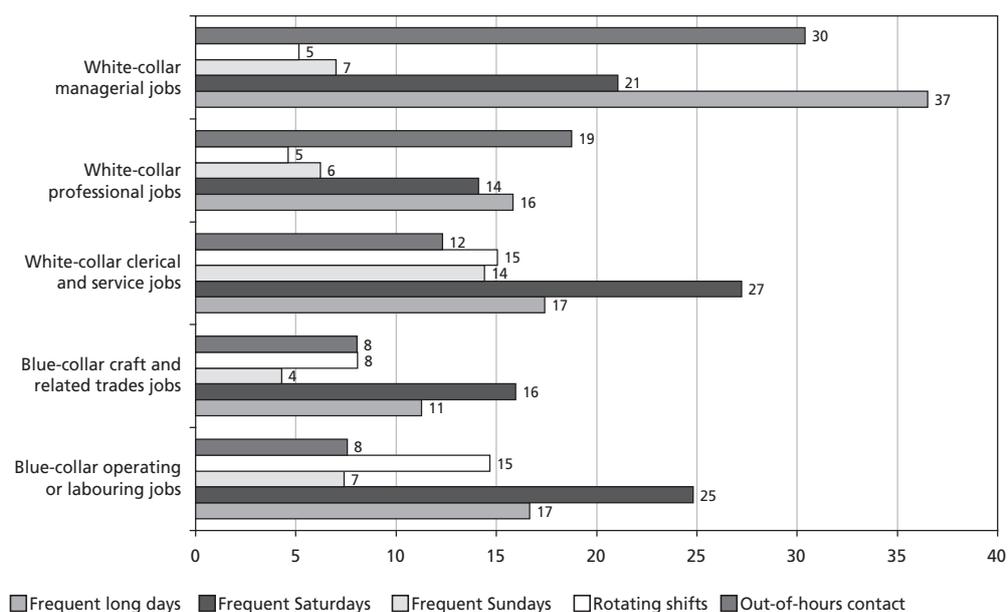
This section focuses on occupational differences in men's and women's working time in order to explore variations by gender, taking account of the highly segregated nature of women's and men's employment.

Part-time work is more common for certain occupational groups – professional, service and sales, and unskilled workers – and is particularly rare for senior managers, skilled workers and machine operators. It is possible to examine occupational differences in the incidence of long working hours for full-time workers. In each occupational category and sector, more men work long hours. However, the incidence of long working hours is also influenced by the type of job. Long working hours are rare for either gender among clerical and secretarial occupations and unskilled jobs; the former is a female-dominated occupational category and the latter has a mixed gender profile. Long working hours are particularly common for agricultural and fishery workers, and for senior managers. Women employed full time in these occupational categories have a higher rate of long working hours than men employed full time in other occupations.

These examples illustrate how the rate of long working hours by women and men is shaped by the requirements and norms of their occupations. Considering that women have a much higher domestic workload, if the occupational norm is long full-time working hours, this can also become a barrier to women's entry into some male-dominated occupations; the underrepresentation of women in senior management is one example. However, long working hours are not necessarily a barrier: agricultural work has a mixed gender profile and women have a long tradition of working long hours in this part of the economy.

The rest of the analysis in this section uses a more condensed categorisation according to occupational status. Occupational differences exist in work schedules for both genders. Male employees are most likely to often work on Saturday, to often work long days and to be frequently contacted outside of their

Figure 22 Incidence of non-standard work schedules among men, by occupational status, EU27 (%)

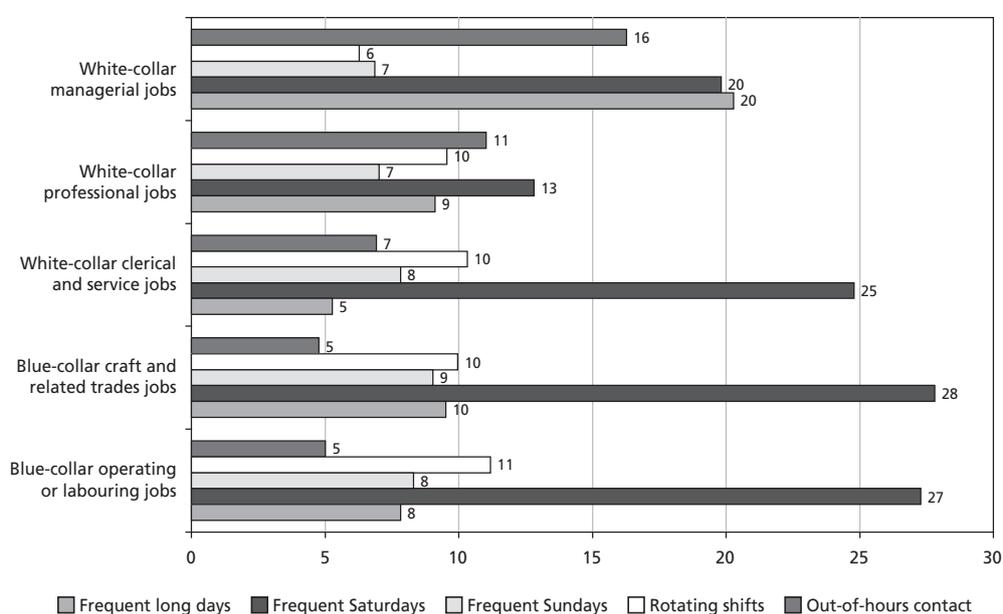


Source: EWCS 2005

normal working hours if they are managers (Figure 22). Shift work is more common for men if they are white-collar clerical and service workers or blue-collar operators or labourers. Sunday work is least common for men in professional jobs and blue-collar craft and related trades jobs.

Frequent work on Saturdays, frequent long working days and being contacted outside of normal working hours are also more likely to feature in women's jobs if they are managers, although to a lesser degree than for male managers (Figure 23). Women who work in blue-collar jobs are more exposed to frequent weekend work than women in other categories. The rate of shift work varies little by broad occupational group for female employees, with the exception that it is rare for those in management.

Figure 23 Incidence of non-standard work schedules among women, by occupational status, EU27 (%)

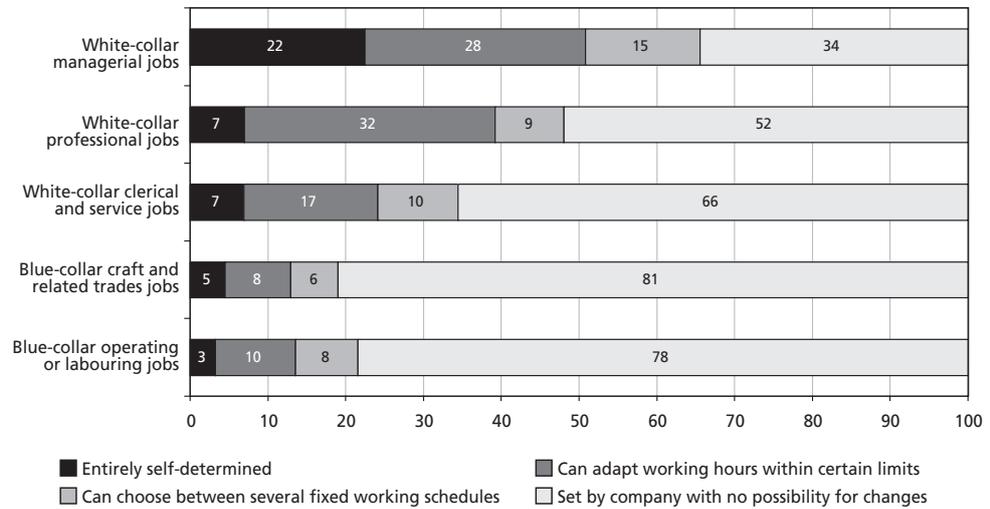


Source: EWCS 2005

Women employed in blue-collar jobs are more likely to work weekends than men in these occupational groups. Among white-collar employees, men are more likely to work frequent long days and to be contacted outside of normal working hours. Sunday work is more common for men among clerical workers, probably because the minority of men in this occupation are concentrated in the transport sector. Among professional employees, it is more common for women to work rotating shifts, mainly to do with the female-dominated nursing and allied professions.

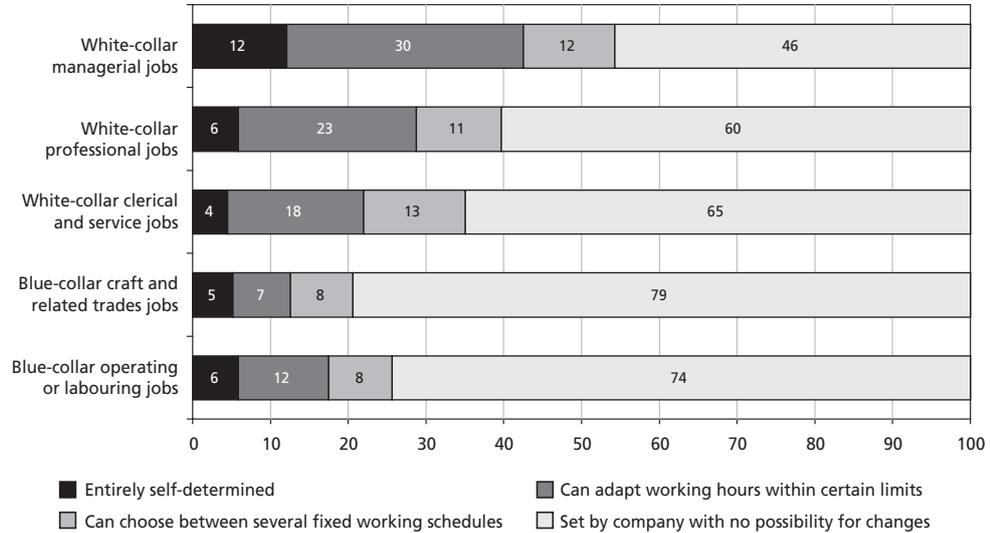
Managers and professional employees have the most working time autonomy; however, if they are women, they are more likely to have their hours fixed by their company (Figures 24 and 25). This probably reflects the concentration of female managers and professionals in less senior positions and perhaps the sector or company in which they work. The other gender difference is that, among blue-collar operators or labourers, more of the female minority determine their own working hours: 6% compared with 3% for men.

Figure 24 Working time autonomy among men, by occupational status, EU27 (%)



Note: Some of the figures add up to slightly less than 100% due to rounding of data.
 Source: EWCS 2005

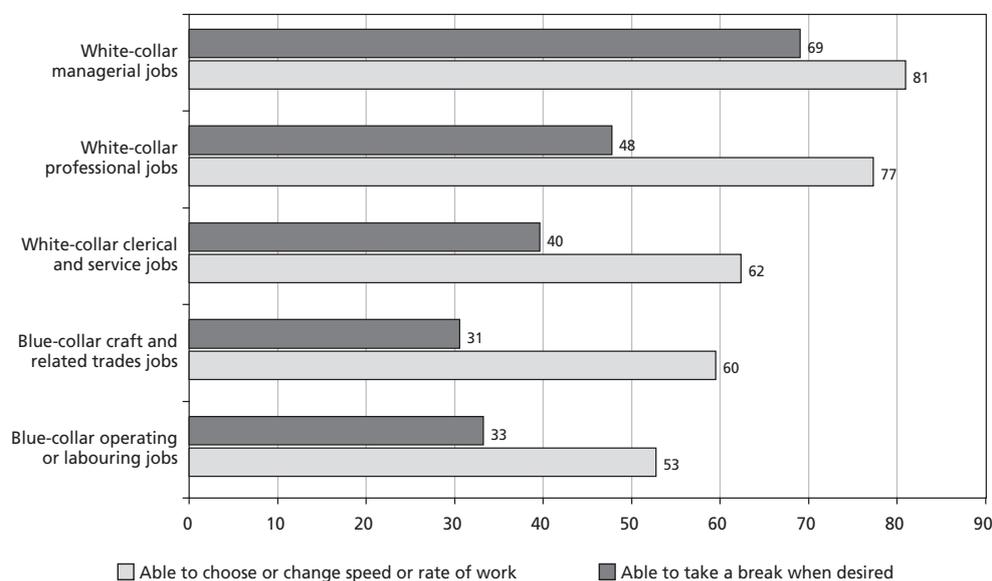
Figure 25 Working time autonomy among women, by occupational status, EU27 (%)



Note: Some of the figures add up to slightly less than 100% due to rounding of data.
 Source: EWCS 2005

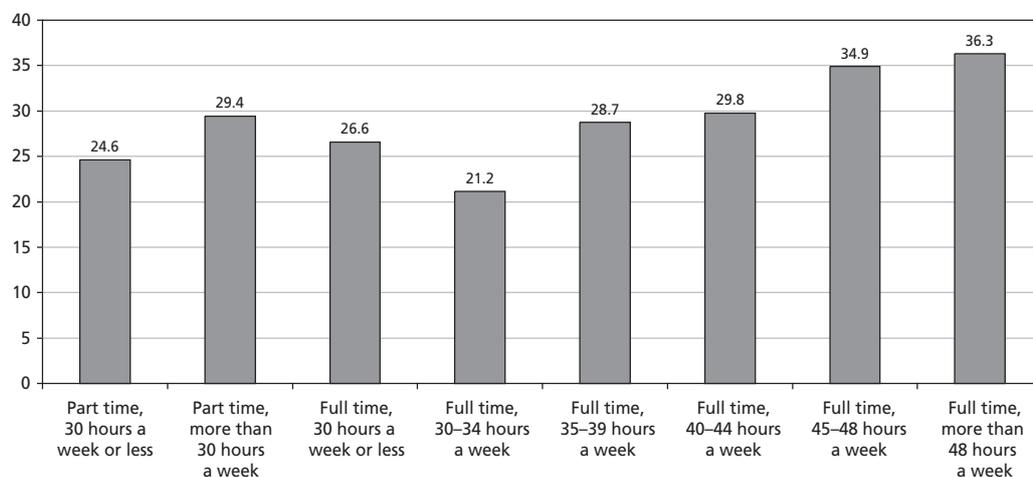
Managers and professional employees also have the most autonomy in their working methods and pace of work, but again, fewer women at this occupational level have this autonomy (Figures 26 and 27). The gender inequality is particularly pronounced at managerial levels. Among clerical and service workers, there are no significant gender differences.

Figure 26 Autonomy in work methods and work pace among men, by occupational status, EU27 (%)



Source: EWCS 2005

Figure 27 Autonomy in work methods and work pace among women, by occupational status, EU27 (%)



Source: EWCS 2005

Second jobs

Like most employment surveys, the EWCS asks the vast majority of questions about one job. However, about 6% of the sample has more than one job. Very little detail is available about the working conditions of these second jobs, but it is possible to get some idea of the type of employees who undertake more than one job and the effect that this has on their work-life balance. The majority of these second jobs are occasional or seasonal, while 2.5% of the sample has two regular jobs. Surprisingly, having a regular second job has little effect on work-life balance. This is even more surprising as those with second jobs score much higher on a range of measures relating to unsocial

hours. However, occasional second jobs more than double the likelihood of respondents describing their work and family or social life as fitting ‘not at all well’.

This is perhaps because, for some individuals, having two regular jobs is a planned strategy; part-time workers of both genders are twice as likely as full-time workers to have a second job. There is also a very large variation between countries in the proportion of workers with two jobs, from less than 4% in the UK to over 12% in Denmark and Estonia. Those in higher-skilled occupations are less likely to have second jobs, with corporate managers being the least likely to hold two jobs (3%). Agricultural, fisheries and related labourers have a higher likelihood of holding a second job (10%), while the highest rate of second jobs occurs among teaching professionals (11%).

Working time and other aspects of work

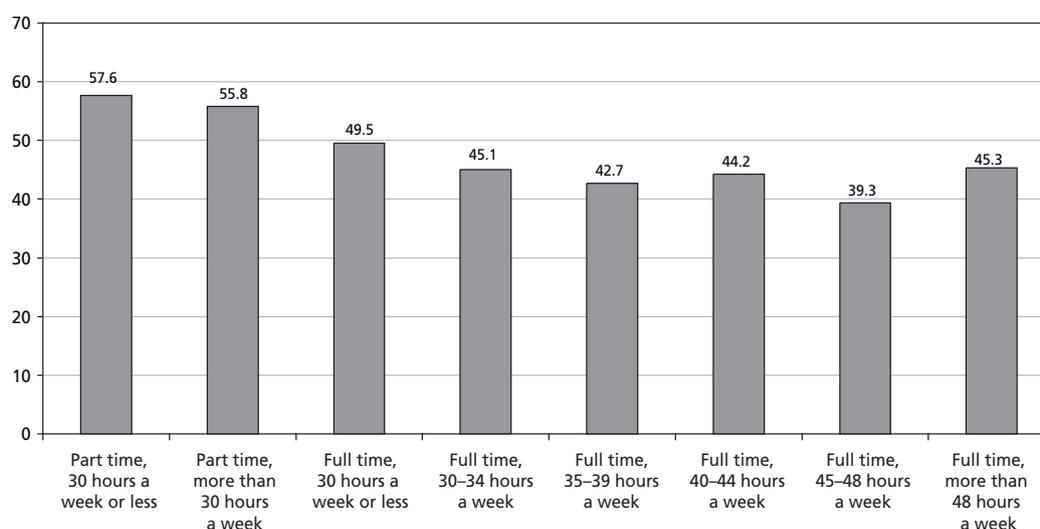
Working time and working conditions

Working time is likely to influence working conditions. It is obvious that, for example, working in a certain position – such as leaning forward – for five hours is not the same thing as working in that position for 10 hours. Long working hours may make the position painful, even if it is not painful for those who work fewer hours. On the other hand, social integration within the organisation may be easier for those who work long hours than for part-time workers.

To provide some evidence on this topic, this study used the logistical regressions described in Chapter 1. Dependent variables are the various physical and psychological working conditions measured in the 2005 EWCS. Independent variables that are assumed to explain these working conditions are working time as well as occupation, sector, status and size of the company, country, age, gender, education, pace constraints, autonomy and social support at work. This study uses the following classification for working time:

- part time, 30 hours a week or less;
- part time, more than 30 hours a week;
- full time, 30 hours a week or less;
- full time, 30 to 34 hours a week;
- full time, 35 to 39 hours a week;
- full time, 40 to 44 hours a week;
- full time, 45 to 48 hours a week;
- full time, more than 48 hours a week.

The link between long working hours and poor physical working conditions is striking (Figure 28). All other things being equal, the probability of almost all physical risks and exertions at work is increased, in a comparison with employees working from 35 to 39 hours a week, when the duration of working time exceeds 48 hours a week. This finding confirms that it is necessary to define working more than 48 hours a week as ‘overworking’, as the working time directive does.

Figure 28 Relation between work duration and tiring or painful positions (%)

Source: EWCS 2005

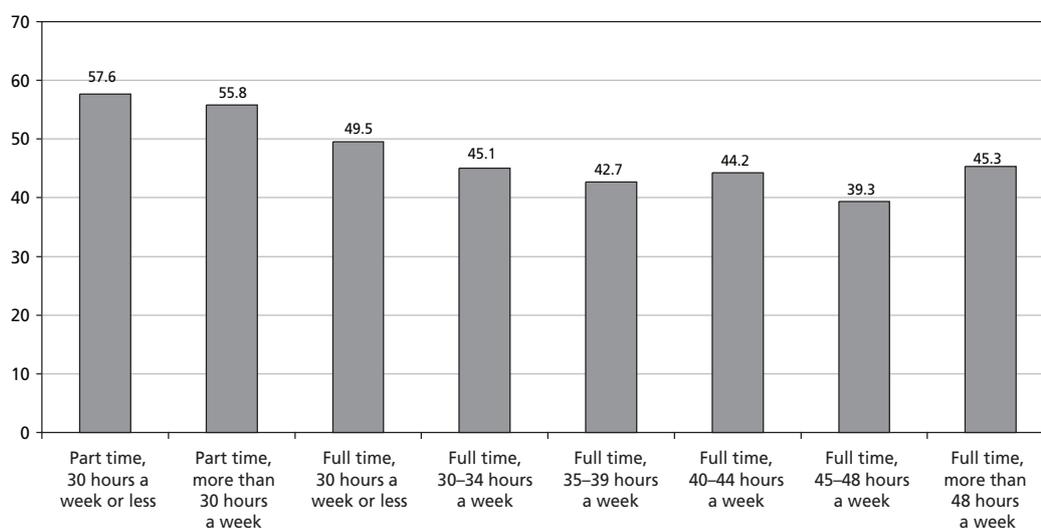
The case of employees working from 45 to 48 hours a week is also interesting. The link between this time duration and physical risks and symptoms is not as significant as for those working more than 48 hours a week. Nevertheless, for half of the variables describing physical working conditions in the 2005 EWCS, the link is positive. This finding indicates that although there is a difference between working 45 hours and working more than 48 hours a week, some attention should also be paid to people working from 45 to 48 hours a week.

If the weekly work duration is less than 45 hours, no clear link is found between working hours and physical working conditions. Overall, it seems that long working hours tend to severely worsen physical working conditions while very short hours do not improve them. As a consequence, combating overworking is probably a way to improve physical working conditions; however, promoting part-time work would not be an effective solution.

Regarding psychological working conditions, the findings are quite different. Employees working from 40 to 44 hours each week appear to suffer less psychological symptoms than others, all other things being equal. It would be useful to examine in future research whether this 'optimal' work duration depends on the legal and usual work duration in every Member State and in every company.

Part-time workers constitute an exceptional case. All other things being equal, they suffer the worst psychosocial working conditions. Mainly, they report poor economic and social integration: they do not feel well paid for the work that they do, are anxious about being fired, have poor career advancement prospects, have few good friends at work and have no opportunity to learn and grow at work (Figure 29). Employees working long hours also report poor economic and social integration. However, it may be partly compensated by the feeling of being useful or having the opportunity to do what they do best.

Figure 29 Relation between work duration and poor career prospects (%)

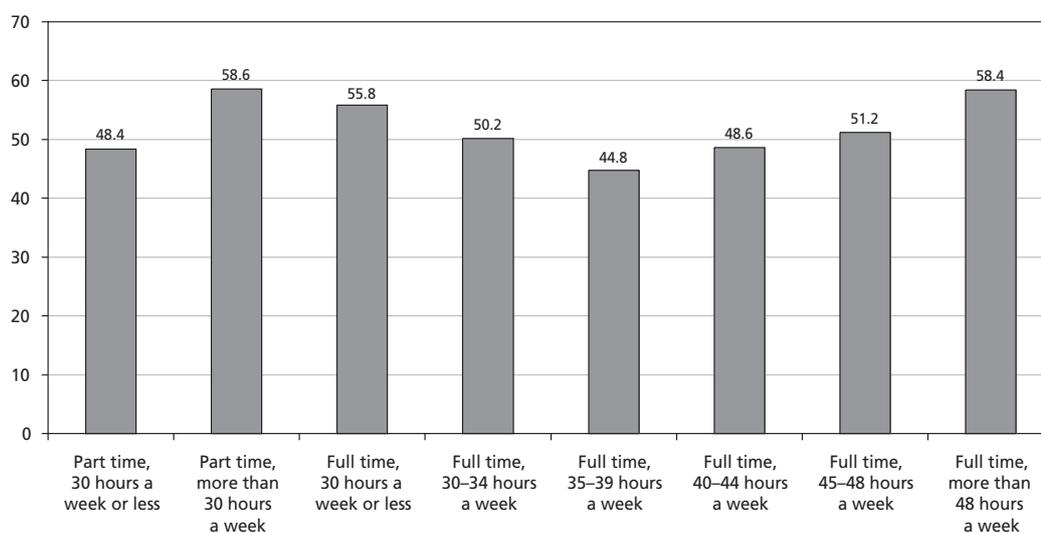


Source: EWCS 2005

Working time is also related to job content. Some aspects of jobs that are considered demanding and may be associated with stress are also more likely to lead to career advancement. These aspects may include meeting quality standards, solving problems, dealing with complex tasks, assessing one's own quality of work and learning new things. Each one of these job features is more prevalent in full-time jobs than part-time jobs.

Employees' opinions about their own work sustainability are consistent with all of these findings. Overworked employees (working more than 48 hours a week) – and, to a lesser extent, employees working from 45 to 48 hours a week – are more likely to perceive their work as putting their health at risk. These employees – as well as those working short hours, including part-time workers – are also

Figure 30 Relation between work duration and the feeling of being unable to do the same job when 60 years old (%)



Source: EWCS 2005

more likely to perceive that they will not be able to do the same job at the age of 60 years (Figure 30). Such feelings may also reflect poor psychological working conditions.

In conclusion, the best working conditions are associated with 'normal' work duration. Long working hours, especially overworking, are linked with poor physical working conditions and a low self-evaluation of work sustainability. Part-time work is associated with poor psychological working conditions, due to weak socioeconomic integration, and is also linked with a low self-evaluation of work sustainability. Further research is needed to identify whether this situation may be specific to involuntary part-time work; however, it should be noted that even voluntary part-time work may be linked with involuntary circumstances such as a lack of childcare services or a low level of grants for students.

Work intensity and working time

Work intensity and work duration are not interchangeable. High-strain workers do not work shorter hours than other employees. People who work long hours are exposed to more pace constraints. The only relative exception is the case of employees who work more than 50 hours a week: they are exposed to fewer pace constraints than those who work between 45 and 50 hours. However, they undergo more intense work than average, according to the criterion of the number of pace constraints. For example, the proportion of employees who undergo two or more different pace constraints is 50% for those who work up to 20 hours a week, 57% for those who work 20 to 29 hours, 59% for 30 to 35 hours, 67% for 35 to 40 hours and 40 to 45 hours, 76% for 45 to 50 hours and 69% for those who work more than 50 hours a week. Clearly, some workers are particularly at risk because they work long hours of intense work; 9% of all employees work more than 45 hours a week and have at least two pace constraints.

There was a slight decline between 1995 and 2000 in the relationship between hours worked and pace constraints. However, this trend has reversed: it became even stronger in 2005 than it was in 1995. These findings confirm the idea of a widening gap in society between people who work long hours and intensely and those with jobs combining low strain and fewer working hours. However, working time is highly dependent on government policies. Thus, it is interesting to study the links between working time trends and work intensity trends at national level. For example, some French politicians have remarked that the laws introducing a 35-hour working week were a cause of work intensification. In fact, work intensity in France substantially increased during the second half of the 1980s and the 1990s, and stabilised during the first years of the new millennium – after the 35-hours regulation. Indeed, a decline in the average number of working hours in Member States is correlated with a decrease – not an increase – in the average number of pace constraints.

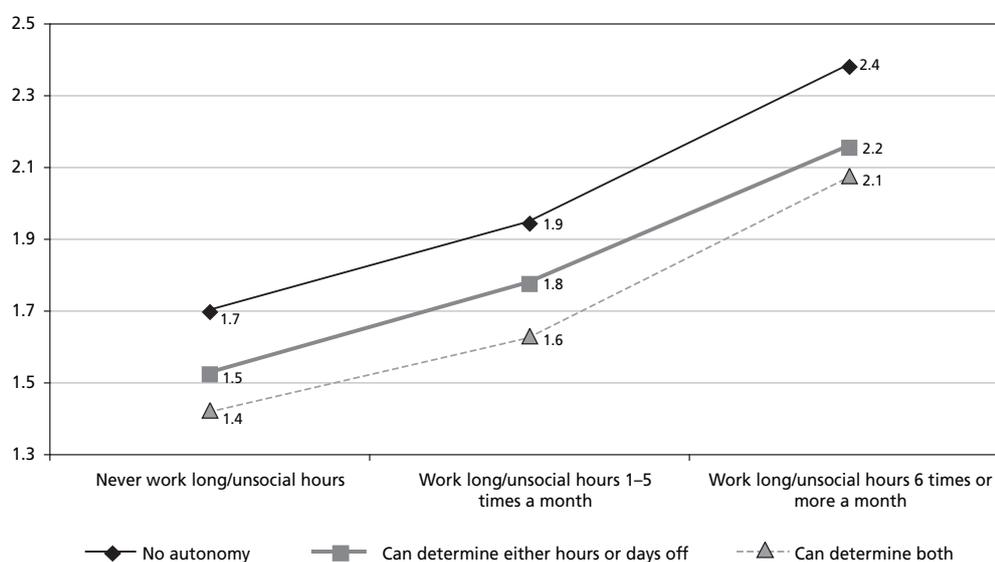
Work–life balance and working time autonomy

The main dimension of working time that determines work–life balance is the volume of hours worked (Fagan and Burchell, 2002). This still applies in the latest wave of the EWCS. The longer the hours worked, the more likely employees are to report that their working hours are incompatible with family and other commitments. This dissatisfaction is also more pronounced for those who regularly work long days or non-standard hours – that is, evenings, nights or weekends. On the other hand, consistent, fixed and regular work schedules promote satisfaction with work–life balance (Parent-Thirion et al, 2007).

Overall, the incompatibility of working long hours with family and other commitments is greater the more unsocial the work schedule is. This applies to both genders; nevertheless, male employees with long and very unsocial work schedules are the most likely to report that their working hours are a poor fit with family or other commitments outside of work.

To disentangle the relative impact of the volume of working hours, involvement in non-standard working hours and having working time autonomy on the compatibility of working hours, an index of unsocial hours was devised. Measuring the impact of the frequency of working evenings, nights, weekends or long days, it was entered in a multivariate analysis of variance. The study explored whether personal autonomy regarding working hours offers some respite to the negative impact of employees' long and unsocial working hours (Figure 31). Employees who have no working time autonomy and never work long or unsocial hours have an index value of 1.7 in terms of work-life incompatibility, compared with 1.4 for those who can decide their own working hours and days. Meanwhile, employees who have no working time autonomy and work long or unsocial hours at least six times a month have an index value of 2.4 in terms of work-life incompatibility, compared with 2.1 for those who do have such autonomy. Thus, working time autonomy has a positive impact on the compatibility of working hours; however, the upward slope of the line shows that the effect is insufficient to offset the much greater negative impact of long and unsocial hours.

Figure 31 Influence of working time autonomy on reducing incompatibility of long and unsocial working hours with family and other commitments (index)



Notes: This unsocial hours index measures the frequency of working evenings, nights, weekends and/or long days of more than 10 working hours. The results indicate that working time autonomy has a positive effect, reducing work-life incompatibility from an index value of 1.7 to 1.4 for those who never work long or unsocial hours, and from an index value of 2.4 to 2.1 for those who frequently do so.

Source: EWCS 2005

This finding has important policy implications. It is sometimes claimed that as long as employees choose to work long or unsocial hours, their autonomy will enable them to avoid work-life balance problems. This, in turn, suggests that the goal of good employers or good employment protection

legislation should be to increase employees' working time autonomy. However, these results point to a different conclusion – that the negative effects of long or unsocial hours are not ameliorated by working time autonomy, and therefore that work–life balance is best protected by minimising the necessity for employees to work long or unsocial hours.

Conclusion

This chapter has shown how working time is strongly related to gender, country and occupation. In each Member State, women work fewer hours than men; however, this gap varies greatly, with a particularly large disparity in countries where part-time work is highly prevalent among women. There are also considerable differences in the rate of working long hours between countries and between occupations.

Variability in autonomy over working hours varies by occupational group. Working long or unsocial hours has a detrimental effect on work–life balance, and this effect is only slightly alleviated by autonomy over working hours. Long working hours and part-time work both have a positive link with poorer working conditions.

Work organisation differs for employees and for self-employed persons. The latter may determine their own work organisation, even if they are subjected to strong economic constraints. In contrast, the former must accept the organisation of the company by which they are employed. Thus, the causes – and even possibly the consequences – of work organisation, and in particular of work intensity, may be very different for employers and for employees; at least their similarity has to be verified, as it cannot simply be assumed. This chapter will focus on self-employed people, devoting a separate analysis to this significant group of workers. Representing 16% of the workers in the 25 EU Member States (EU25) before Bulgaria and Romania joined the EU in 2007, they are often neglected in work and employment-related studies.

Two types of self-employed persons are defined in the EWCS data: self-employed without employees and self-employed with employees. This study will refer to the latter as employers, while those without employees will be referred to as self-employed people. The proportion of self-employed people is higher in almost all of the countries surveyed than the share of employers. Exceptions are Denmark, Estonia, Germany, Latvia, Luxembourg, Malta and Slovenia, as well as Croatia and Switzerland. In these countries, the two groups of self-employed persons are either equal in their prevalence or employers are more common than those self-employed without employees. In the EU25, the overall proportion of self-employed persons was 16% in 2005: 10.8% were self-employed without employees and the remaining 5.2% were employers. The following sections will present the work intensity and working time characteristics of these two self-employed groups.

What do self-employed people do?

The two self-employed groups show a high level of occupational and sectoral concentration. Self-employed people are mainly concentrated in the occupational groups of skilled agricultural and fishery workers (23%), legislators, senior officials and managers (17%), craft and related trades workers (14%) and elementary occupations (11%). Meanwhile, employers are grouped in the occupations of legislators, senior officials and managers (39%), craft and related trades workers (14%), professionals (10%), service and sales workers (9%) and skilled agricultural and fishery workers (also 9%).

These differences are also reflected in the sectoral distribution of self-employed persons. Both groups are concentrated in two main sectors: 25% of self-employed people and 11% of employers work in the agriculture, hunting, forestry and fishing sector, while 46% of employers and 37% of self-employed people work in the services sector.

Work intensity

One of the questions designed to measure the work intensity of employees in the EWCS concerns the speed of the work. Generally, notable differences are evident in this regard between the two groups of self-employed persons (Table 3). The work pace of employers is higher than average, while self-employed people have less intense work. The biggest differences between the two groups can be found at the two extremes of the scale.

It is interesting to note that similar patterns can be identified in the 10 NMS (NMS10) that joined the EU in 2004 and among the EU15. Work intensity, as measured by the occurrence of working at very high speed, is generally lower in the NMS than in the EU15, but no significant deviations by employment forms could be identified.

Another important indicator of work intensity is the prevalence of tight deadlines. For this variable, more similar patterns were found between the two groups of self-employed persons than in the case of working at high speed. Nevertheless, employers have to cope with tight deadlines at a higher degree than average, while self-employed people again have less intense work.

Table 3 Employment status and speed of work (%)

Does your job involve working at very high speed?	Are you mainly... ?				
	Self-employed without employees	Self-employed with employees	Employed	Other	Total
All of the time	9.0	14.4	11.5	9.4	11.3
Almost all of the time	12.2	14.6	14.8	11.4	14.4
Around ¾ of the time	8.5	10.3	8.1	5.6	8.2
Around ½ of the time	13.6	13.8	12.8	9.3	12.9
Around ¼ of the time	12.9	12.2	12.4	11.1	12.4
Almost never	20.2	17.5	18.8	19.4	18.9
Never	23.7	17.1	21.6	33.8	21.8
All	100.0	100.0	100.0	100.0	100.0

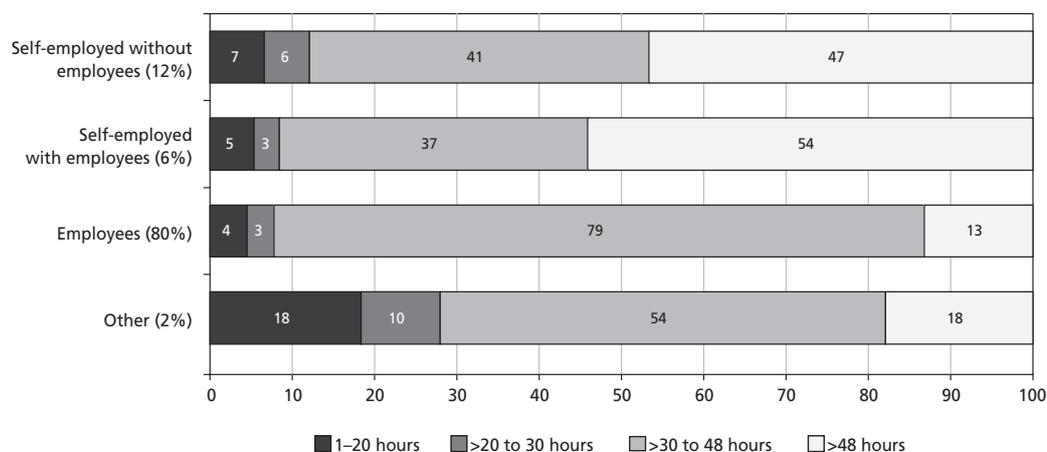
Note: Some of the figures add up to slightly more or less than 100% due to rounding of data.

Source: EWCS 2005

Working time

In general, it can be stated that self-employed persons work more hours and that their working days are divided in a more irregular way compared with employees: the former work more Sundays and Saturdays as well as evenings.

Figure 32 Working time among men, by employment status (%)

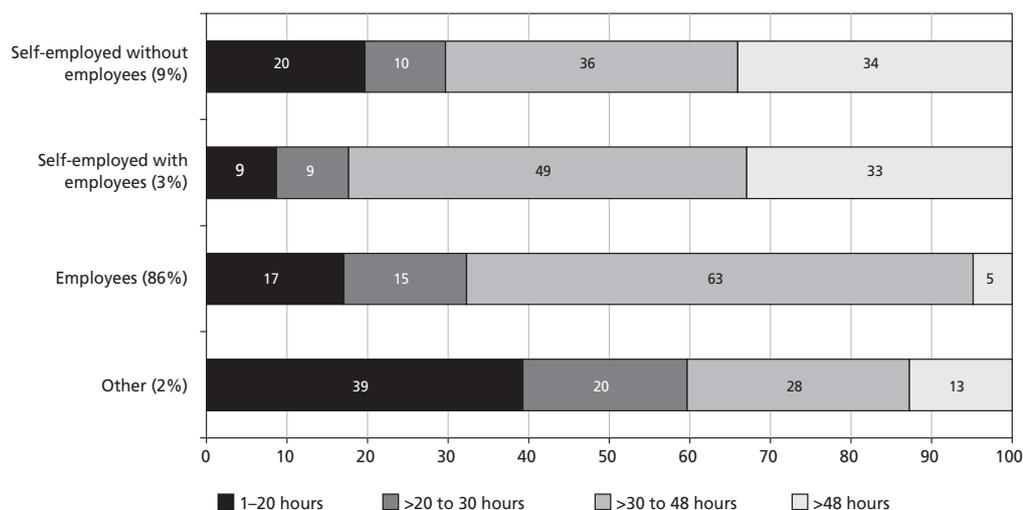


Notes: The percentages in brackets beside the four employment status categories refer to their share of the survey sample, which is representative of the labour market. Some of the data values add up to slightly more or less than 100% due to rounding of data.

Source: EWCS 2005

The working time patterns of the two self-employed groups are very different from those of employees (Figures 32 and 33). For men, the proportion working long hours (more than 48 hours a week) is greater by a factor of about four for self-employed persons compared with employees, while for women the percentage is around six times higher. In this analysis, respondents who categorised themselves as 'other' are excluded; they constitute a mere 2% of the sample and are also atypical in several ways.

Figure 33 Working time among women, by employment status (%)



Source: EWCS 2005

Looking at the hours worked per week, the majority of employees work 36 to 40 hours a week, while for self-employed people without employees this proportion is only 18.5% and for employers it is 20.5%. In contrast, almost 43% of self-employed people and 49% of employers reported working more than 48 hours a week. The category of 'other', which groups workers with atypical employment forms, can be characterised by fewer working hours than average. It is also interesting to note that although self-employed persons usually work somewhat longer hours in the NMS10 than in the EU15, these differences are almost negligible.

The determinants of working hours differ between employees and self-employed persons. For the former, the hours worked each week are typically dictated by an employment contract, albeit a contract that is in many cases flexible regarding opportunities for overtime – paid or unpaid – and also opportunities for 'shirking' so that some employees may work less than their contracted hours. However, for self-employed persons, working hours are usually self-determined. In some cases, these hours may be fixed by the start and finish times of a business or a contractor. At the other extreme – for example, in the case of some agricultural workers or homeworkers – the boundaries between their paid work and their non-work lives are difficult to determine. Moreover, for some self-employed persons, work is not so much subject to quantification through hours, but is instead set by having a number of tasks to complete, however long that takes.

One indicator of this uncertainty surrounding hours worked can be gauged by the numbers responding 'don't know' when asked how many hours they work a year. For employees, this was only 1%, but 8% of self-employed people and 6% of employers felt unable to give a specific number of hours that they usually worked in their main job.

The policy implications of working hours are very different for employees and self-employed persons. Employees have historically been subject to regulations governing their working hours, and this is the case even more so in recent times. Such regulations – although controversial – are seen as an important way to determine the quality of individual and family life within the EU. In contrast, the working hours of self-employed persons are considered to be largely beyond regulation except where they have direct implications for the safety of others, such as hours spent driving vehicles.

Some 15.3% of employees work six or seven days a week, while the same proportion for self-employed people and employers is 60.4%.

Evening work is also higher in the case of self-employed persons compared with employees. While 14.7% of self-employed people and 12.2% of employers work in the evening more than 20 times a month, only 2.1% of employees reported the same work pattern. Generally, the same is true for working Saturdays and Sundays. At the same time, it is worth noting that self-employed persons in the EU15 work in the evening to a greater extent than those self-employed in the NMS10. Overall, 23.5% of self-employed persons in the latter country group reported working evenings more than 10 times a month, while the same proportion in the EU15 was 31.4%. Considering that any other kind of atypical work is more prevalent in the NMS10, it is interesting to compare both country groupings.

Indisputably, one positive aspect of being self-employed is the reduced time spent on travelling to and from work. While 51.3% of self-employed people and 43.3% of employers travel for less than 20 minutes to their workplace, the same proportion for employees is only 21%. On the other hand, 7% to 8% of self-employed persons travel for more than 60 minutes on a daily basis to and from the workplace. Nevertheless, at 15%, the corresponding share for employees is twice that.

Work intensity

Different studies and stakeholders do not define work intensity as a concept in a completely similar way. However, some findings are robust and do not depend on the specific way that intensity is measured. Such findings suggest that high work intensity has a high cost. Firstly, it may cause accidents at the workplace. Secondly, it is linked with poor working conditions, which may adversely affect workers' health. Pace constraints are associated with an increased probability of experiencing physical risks and symptoms at work as well as harmful psychological working conditions. These poor working conditions may also lower the employability of some workers. Indeed, pace constraints are associated with a greater probability of feeling that one's work is unsustainable. Workers who have to cope with overly intense work have neither the time nor strength to improve their knowledge and abilities. However, people who are able to cope with intense work have higher career expectations: high intensity does not damage the working conditions of every worker, but it does put work at risk. Even for those workers who can currently cope with high work intensity, this working pattern may not be sustainable in the long term. In any event, organisations that provide very intense work and may, as a consequence – at least in some cases – be dangerous for some of their members, even if not for all, can be regarded as non-optimal. It is important to note that work intensity is not the only aspect of organisation affecting working conditions and health at work; work autonomy and social support also matter, even if a very high intensity of work probably cannot be entirely compensated.

The link between work intensity and productivity is not clearly defined. Companies that provide high-intensity work reap the possible benefits thereof, and they pay some of the costs. Health problems due to excessively intense work are – with some exceptions – borne by employees and the company through the welfare system, regardless of the intensity of the work. High-intensity work may not be sustainable in the long term. Excessively intense work may be unsustainable, and it may undermine the ability of the labour market to cope with an ageing workforce. As a consequence, it contravenes the EU goal of a high employment rate for certain groups of workers, like the elderly. Measures to reduce the negative effects of work intensity would help to achieve one target of the EU Employment Guideline No. 18: 'support for active ageing, including appropriate working conditions, improved occupational health status and adequate incentives to work and discouragement of early retirement'.

There is no support for the hypothesis that work intensification has ceased or is even slowing. Effects of globalisation of markets and competition, demographic change associated with government policies to reach economical growth and maintain European living standards drive the intensification. However, the study found evidence that other aspects of organisations can counterbalance the effects of high-intensity work – or exacerbate them. On the one hand, high autonomy and high social support are associated with generally improved working conditions. On the other hand, even at an equal level of work intensity, poorly functioning organisations provide poor physical and psychological working conditions. Thus, in some cases, it may be possible to enhance working conditions and to increase productivity at the same time by improving organisations.

High work intensity is linked with the use of ICT and of the internet. However, technological change has only indirect effects on work intensity. In fact, it allows companies to implement new forms of organisation that may demand intense work. These forms combine industrial or bureaucratic models of organisation and market-oriented models of organisation. They may necessitate employees' subjection to a combination of pace constraints: dependency on machines or numerical targets, combined with

dependency on the demand of customers. This situation occurs more often in poorly designed organisations.

In order to limit the negative consequences of work intensity, it is clearly necessary to improve poorly designed or malfunctioning organisations. Although it is an employer's right to choose their own organisation pattern, incentives (or even coercion) may be considered to make companies adopt best practices. In some cases, organisational risks are not less severe than the risks caused, for instance, by the physical characteristics of work. Coercion is clearly generally not appropriate because work organisation is too complex an issue. However, there should be some compensation between companies that provide poor working conditions on one side and those providing good working conditions as well as for workers on the other side. Indeed, the poor organisation of the company providing poor working conditions is in some instances a cause of illness and unemployment, which are costly problems and supported by the community. As a result, it is necessary to construct and test appropriate instruments for evaluating and monitoring work intensity and the quality of work organisation as well at micro level.

Working time

Overworking is an ongoing issue for European policies. Firstly, long working hours are linked with poor working conditions. The findings show that this is particularly the case when working time exceeds 48 hours a week. Nonetheless, working from 45 to 48 hours a week is also related to problematic working conditions. Secondly, there is a gender gap in relation to those working long hours. Clearly, because of the persistent gender gap in the division of domestic work, only a few women are able to work very long hours. Therefore, very long hours are an obstacle preventing women from enjoying the same opportunities as men in the labour market. Moreover, long hours worked by men are a barrier to a more balanced distribution of labour within families. Strong variations arise between Member States in relation to both long working hours and the gender gap in this regard. This suggests that the legal, institutional and cultural context matters and that it is possible to reduce the proportion of overworked people. Taking such a step would improve working conditions and provide more equal opportunities between men and women.

As far as part-time work is concerned, the findings show that promoting this form of work is not a sound means of improving working conditions. Very short working hours are not associated with especially good working conditions. Overall, part-time workers experience poor psychological working conditions, limited socioeconomic integration and a dearth of career opportunities. Further research is needed to determine if this is specific to involuntary part-time work, although even voluntary part-time work may be linked with involuntary circumstances such as a lack of childcare services or a low level of grants for students.

The substantial gender gap in part-time work is clearly connected to the division of family responsibilities. This division also depends on the types of jobs available in the labour market. It furthermore depends on the childcare system and other institutions. When women take up part-time jobs because no other jobs are available to them or because it is the only way for them to cope with their family duties, they may be prevented from pursuing the same career opportunities as men.

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Annex:

Monitoring working time and work intensity

EU Employment Guideline No. 21 refers specifically to work organisation. It calls for the promotion of flexibility combined with employment security, in part through ‘the promotion and dissemination of innovative and adaptable forms of work organisation, with a view to improving quality and productivity at work, including health and safety’. This report has shown the implications of working time and work intensity on health at work, on work–life balance and on equality between men and women. Therefore, it would be useful to integrate an indicator of onerous work organisation – encompassing a demanding work schedule and high work intensity – among the indicators for the employment guidelines. Demanding work schedules and intense work are costly for workers in terms of time or effort. Furthermore, they may represent, depending on the other features of the work organisation and on the workers’ own characteristics, either an investment leading to various rewards such as higher pay, a better career and interest in the work, or on the contrary a waste of effort.

This annex provides some elements for further discussion on this issue. Since the purpose here is to measure work organisation, it seems more appropriate to base the indicator on pace constraints, work duration and working time patterns, rather than on perceived intensity or perceived work–life balance.

It is important to note that work intensity and working time are not the only organisational drivers of working conditions and of health and well-being at work. For instance, autonomy and social support also matter. In their report to Eurofound on work organisation, Valeyre et al (2009) outlined a classification of organisations and showed that this classification was linked with working conditions. On the basis of this classification, they built an Innovative Work Organisation Index, which in fact captures most of the information about, for instance, autonomy. Thus, combining the Innovative Work Organisation Index with the Onerous Work Organisation Index is likely to provide relevant synthetic measures of two important dimensions of work that influence workers’ health, safety and well-being.

In fact, a strong link can be found between the various measures of work intensity. More specifically, in cross-section, there is a strong link between perceived intensity on the one side and pace constraints on the other. However, the drivers of the evolutions of pace constraints and of work intensity may be slightly different. Pace constraints depend on the decisions taken about companies’ work organisation, the way that these decisions are implemented and the way that organisations actually work. Perceived intensity also depends on these aspects, as well as on the characteristics of the job and of the worker, which make the worker able or unable to cope with the constraints that the organisation generates. Perceived intensity furthermore depends on social standards about what is a ‘normal’ or ‘high’ working speed or about what are ‘normal’ or ‘tight’ deadlines: these standards can change over time. Therefore, perceived intensity can be regarded as part of working conditions, while pace constraints are descriptors of organisations.

Similarly, work duration and working time patterns directly depend on organisational decisions and on the way that organisations work, while perceived work–life balance also depends not only on other aspects of work organisation, but also on workers’ characteristics and on social standards. Companies have a direct influence on their own organisation, including pace constraints, work duration and working time patterns, while they are not able to control some determinants of perceived intensity or perceived work–life balance.

Constructing an index

The question is how to measure working time and work intensity in order to build a synthetic Onerous Work Organisation Index. This is an issue requiring further research and the following considerations should be regarded as only preliminary.

As this report has shown, working more than 48 hours a week is clearly overworking. Below 48 hours a week, work duration still has an influence on workers' health, safety and well-being, but it is less crucial. Therefore, this study proposes a simple index of work duration: a rating of one for a worker who works 48 hours a week or more and zero for a worker who works less than 48 hours a week.

Many elements of working time patterns are important in the determination of health, safety and well-being at work. In further research, it would be appropriate to study the links between these various elements, for instance by using factor analysis, and to study their respective links with working conditions and work-life balance. This report has shown that working unsocial hours has a strong influence on health and well-being, while the influence of time autonomy is weaker. Thus, it is suggested, at this preliminary stage, to consider only unsocial hours. Clearly, work at night (for example, at least once a month), work on Sunday (for instance, at least once a month) and shift work² must be regarded as work at unsocial hours. It is more questionable whether Saturday work and evening work have comparable links with working conditions and work-life balance. Long working days have partly the same effects as night work or Sunday work, but they have not been included in the index in order to avoid double counts with long working weeks. The analysis defined an index of unsocial hours by giving to every worker a third of a point if they work at night, a third of a point if they work on Sunday and a third of a point if they work shifts.

A demanding work schedule index was defined as the mean of the work duration index and the working time pattern index.

Similarly, building a synthetic index of the various pace constraints is not obvious and more investigation is needed to construct an accurate measure. However, at the present stage of this work, a simple index may be proposed: the number of constraints experienced by the worker, according to the classification of constraints used in the EWCS, divided by five so that the minimum value of the index is zero and the maximum value is one, just as for the two previous indexes. This is a crude method but it makes some sense. For instance, it may be argued that the demand constraint has no clear link with physical working conditions; nevertheless, the analysis cannot ignore that it is linked with poor psychological working conditions.

Finally, the Onerous Work Organisation Index was calculated as the mean of the demanding work schedule index and the work intensity index.

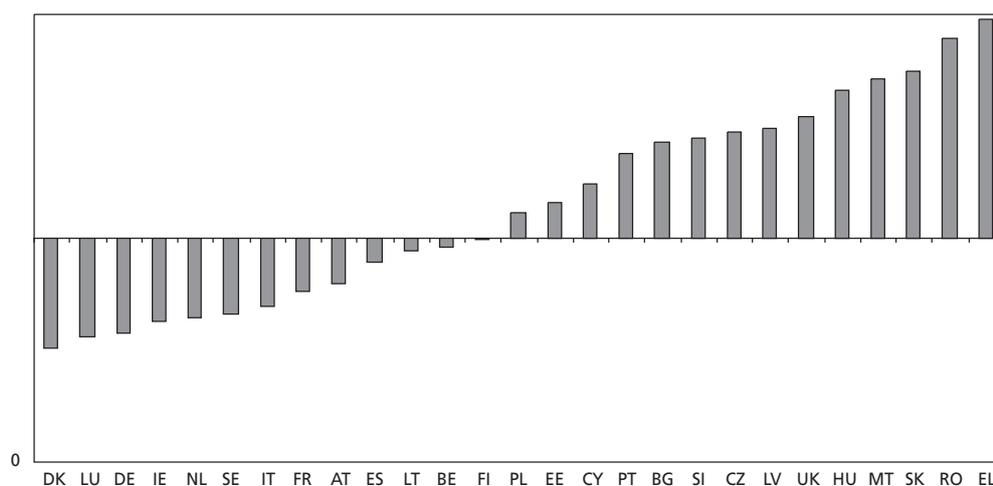
It would have been useful to add indicators of the way that organisations function. This report has shown that this factor is strongly linked with the quality of working conditions. Additionally, improving the way that organisations function can be a goal shared by employers and employees. Unfortunately, only one variable on this topic is available in the EWCS: unforeseen interruptions. An indicator based

² It would perhaps be better to exclude fixed hours shifts. This decision has a very small influence on the differences between Member States in the Onerous Work Organisation Index. Therefore, this point is not discussed here, although it may matter in some cases.

solely on this variable would be fragile. For this reason, it is debatable whether it should be included in the index. It might be noted that the issue of poorly functioning organisations could be measured more accurately in forthcoming waves of the EWCS.

Figure A1 shows the mean value of the Onerous Work Organisation Index for employees in each EU Member State.

Figure A1 Onerous Work Organisation Index

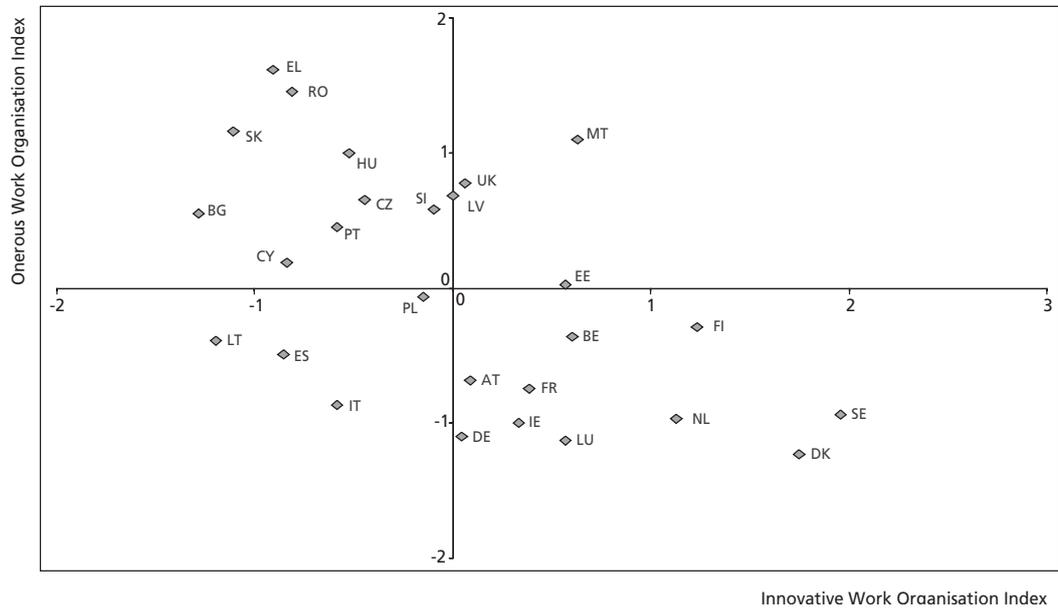


Source: EWCS 2005 and authors' calculations

Figure A2 shows the mean value of both the Onerous Work Organisation Index and of the Innovative Work Organisation Index. The two indexes are complementary. By combining them, it is possible to identify five groups of Member States.

- The first group is characterised by a high level of organisational innovation and by less onerous work organisation. It groups the Nordic countries, Denmark, Finland and Sweden, as well as the Netherlands.
- The second group is characterised by an intermediate level of organisational innovation and, like the first group, a rather moderate level of organisational demand. It gathers the 'Continental', 'corporatist' countries of Europe: Austria, France and Germany. Belgium and Luxembourg also belong to this group, although they appear to be closer to the Nordic countries than France or Germany. Ireland also belongs to this group.
- In the third group, the analysis finds the Mediterranean Member States of Italy and Spain, the social model of which is, to some extent, also 'corporatist'. More surprisingly, this group includes Lithuania. It features rather low levels of organisational innovation and of organisational demand.
- The fourth group gathers most of the NMS, as well as Greece and Portugal. It is characterised by a low level of organisational innovation and a high level of organisational demand.
- Finally, a few Member States have an intermediate level of organisational innovation and a high level of organisational demand. This is the case for Estonia, Latvia, Malta and the UK.

Figure A2 Innovative and Onerous Work Organisation Indexes



Source: EWCS 2005 and authors' calculations

Despite the fact that the indexes used are rather crude, these findings seem to be consistent with many other observations and support the idea that it is relevant to spend some additional time and effort in order to build synthetic indexes to describe work organisation.

In conclusion, it is worth emphasising that the potential of the EWCS to contribute positively to the development of useful indicators, in the context of the EU 'open method of coordination'³ and the Integrated Guidelines for Growth and Jobs, goes substantially beyond the question of developing indicators of onerous work. Quality of work and employment is more generally a central issue in EU employment policy and a useful future exercise would be to explore the possibilities of developing a more general work quality index which could be used to inform policy.

³ The open method of coordination (OMC) provides a framework for cooperation and governance between the Member States.

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Working conditions in the European Union: Working time and work intensity

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The issue of working time is a central EU policy concern and continues to be controversial in the light of revisions to the working time directive. In recent times, work intensity – fuelled by globalisation and the need to fulfil Europe's objectives of being more competitive and to create economic growth – has also attracted much attention. Understanding the impact of long and intense working hours is crucial in the context of the ongoing debate on working time and quality of work. This report outlines the current situation regarding work intensity, indicating a clear link between work intensity and poor working conditions, both physical and psychological. The analysis is based on findings from the fourth European Working Conditions Survey carried out in 31 countries, including the 27 EU Member States. The analysis reveals sharp variations between different Member States in relation to working hours and the associated gender gap, and points to the huge costs both for workers and companies arising from high work intensity.

The European Foundation for the Improvement of Living and Working Conditions is a tripartite EU body, whose role is to provide key actors in social policymaking with findings, knowledge and advice drawn from comparative research. The Foundation was established in 1975 by Council Regulation EEC No. 1365/75 of 26 May 1975.



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