

Trends in Job Quality : Evidence from French and British Linked Employer-Employee Data

Zinaida Salibekyan

▶ **To cite this version:**

Zinaida Salibekyan. Trends in Job Quality : Evidence from French and British Linked Employer-Employee Data. Economics and Finance. Aix-Marseille Université, 2016. English. NNT : . tel-01333223

HAL Id: tel-01333223
https://shs.hal.science/tel-01333223

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AIX– MARSEILLE UNIVERSITÉ

FACULTE DE SCIENCES ECONOMIQUES ET DE GESTION

Ecole Doctorale de Sciences Economiques et de Gestion d'Aix-Marseille n°372

Année 2015-2016

Thèse pour le Doctorat ès Sciences Economiques

Présentée et soutenue publiquement le 29 Janvier 2016 par

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Trends in Job Quality:

Evidence from French and British Linked Employer-Employee Data

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This thesis is dedicated to my parents - Vahan and Ruzanna Salibekyan

ACKNOWLEDGMENTS

My deepest gratitude is to my advisor, Senior Researcher CNRS Philippe Mossé. I have been amazingly fortunate to have an advisor who gave me the freedom to explore on my own and at the same time the guidance to recover when my steps faltered. I am deeply grateful to him for carefully reading and commenting on the revision of this manuscript. I would like to thank him for encouraging my research and for allowing me to grow as a research scientist.

I would like to express my special appreciation and thanks to my co-advisor, Stéphanie Moullet, who has been always there to discuss the thesis and give advice. I am deeply grateful to her for the long discussions that helped me to sort out the empirical part of my work. I would like to thank her for dedication and interest which made possible for me to access the required literature and deliver results of appreciable quality and standard.

I would like to thank reporters of the dissertation committee, Prof. David Marsden and Prof. Jerôme Gautié for their detailed report and their insightful comments. I am also thankful to Prof. Philippe Askenazy for his valuable suggestions while evaluating my research work. I would like to take this opportunity to thank Prof. David Marsden for giving me the opportunity to be a PhD visitor at the London School of Economics. During my visit I obtained both theoretical and methodological knowledge on employment relations studies.

I would like to pay special thankfulness, warmth and gratitude to the Institute of Labour Economics and Industrial Sociology (LEST) for hosting me as a PhD student. I am very grateful to senior researchers for numerous discussions and for encouraging my research. I am also grateful for financial contributions the institute has made for giving me opportunities to present my papers in international conferences. For this I am especially grateful to Ariel Mendez. I am also very grateful to Patrice Cacciuttolo for all the support related to data access and for the logistics. My thanks also go to the entire population of LEST for their numerous conversations, questions and help. Special thanks to administrative staff of Doctoral School of Aix-Marseille University for helping me out to complete various administrative tasks. For this I am especially grateful to André Noé.

I would like to acknowledge to the members of the 'Leverhulme' team with whom I have been working during the last year of my thesis at the Employment Research Centre (CEE). Particularly, I would like to acknowledge Senior Researchers Thomas Amossé, Christine Erhel and Alex Bryson for many valuable discussions that helped me to understand my research area better and develop the first and second chapters of this thesis. The first

chapter of the thesis is aimed to be published together with Thomas Amossé, and one part of the second chapter will be published as a book chapter together with Christine Erhel and Alex Bryson. Furthermore, I would like to thank Senior Researchers John Forth and Héloïse Petit for discussions and suggestions that certainly improved the quality of this manuscript.

I wish to present my special thanks to Prof. Olivier Godechot with whom I have been working on the third chapter of this thesis. Thanks to our collaboration I learned quickly to perform different types of data management techniques and apply rigorous econometric models. I am grateful to him for his patience, dedication and interest in my work. The third chapter of the thesis will be published together with him.

I would also like to take this opportunity to acknowledge Senior Researcher Nathalie Greenan for her support and encouragement at the end of my thesis. Her advice on both research as well as on my career have been priceless.

Special thanks to all my friends, colleagues who spread their valuable time and discussed with me my thesis. I would like to acknowledge particularly Dr. Sarra Ben Yahmed and Dr. Majda Seghir for reading certain parts of my thesis and giving me valuable feedback. Special thanks to Adeline, Daniel and Tangi for encouraging my work and being always ready to discuss with me certain questions.

I would also like to thank Jack Morton and his parents - Jenny Golden and Gary Morton who hosted me in London during my PhD visit. I am deeply grateful to them for their kindness and for various discussions related to British employment law, trade union movements and other subjects related to British history and culture.

Last but not the least I must express my very profound gratitude to my parents and to my husband for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing the thesis. This accomplishment would not have been possible without them.

Notice

Except for the general introduction and the general conclusion, the chapters of this thesis are self-standing research articles. This also explains that some information is provided in multiple parts of the thesis.

RÉSUMÉ

La contribution de cette thèse est d'examiner l'évolution de la qualité de l'emploi du point de vue de l'établissement. Elle s'appuie sur des données couplées employeurs - salariés issues des enquêtes comparables *Workplace Employment Relations Survey* (WERS 2004 et 2011) pour le cas de la Grande-Bretagne et *Relations Professionnelles et Négociations d'Entreprise* (REPONSE 2005 et 2011) pour la France. Cette thèse contient trois chapitres et enrichit trois grands axes de la littérature existante. Le premier chapitre explore l'impact des pratiques d'ajustement au niveau de l'établissement sur la qualité de l'emploi en France pendant la crise. Le deuxième chapitre analyse le rôle du régime institutionnel en France et en Grande-Bretagne afin d'expliquer la variation de la qualité de l'emploi entre les deux pays. Finalement, le troisième chapitre examine les stratégies adoptées par les salariés pour composer avec leur salaire et leurs conditions de travail.

Grace à la base de données couplées collectant à la fois des informations sur les employeurs et les employés (les enquêtes REPONSE, 2005 ; 2011), le premier chapitre fournit des preuves empiriques sur les liens entre changements d'activité et qualité de l'emploi dans deux contextes différents : l'un, en 2005, économiquement favorable et l'autre après la crise de 2011. De plus, ce chapitre vise à montrer comment un changement d'activité interagit avec l'emploi et quel est l'impact sur la qualité de l'emploi des salariés français. Les résultats confirment que la perception de l'intensité du travail, l'insécurité de l'emploi ainsi que celle des perspectives de promotion ont changé après la « Grande Récession » de 2008-2009. Pour sa part, le salaire horaire est supérieur en 2011 relativement à celui de 2005. Bien que les salariés perçoivent disposer de davantage de chance de promotion et moins d'instabilité de l'emploi dans le contexte post-crise, les résultats montrent que la perception de l'insécurité de l'emploi s'accroit et les chances de promotions sont perçues comme devenant plus rares quand à la fois l'activité économique de l'établissement et son nombre de salariés baissent.

En s'inspirant de la théorie *varieties of capitalism* et de l'approche *power resource*, le deuxième chapitre examine dans quelle mesure les caractéristiques macroéconomiques peuvent expliquer les différences de perception de la qualité de l'emploi par les salariés entre les pays. De plus, le chapitre étudie l'impact de la taille d'entreprise sur la qualité de l'emploi dans deux différents régimes institutionnels – la France et la Grande-Bretagne. Il appert que, dans les régimes duals, la qualité de l'emploi est meilleure dans les grandes entreprises que dans les petites. Au contraire, dans les régimes d'emploi de marché, la qualité de l'emploi est

plus faible pour les grandes entreprises que pour les petites. Ce chapitre 2 montre également que, en France, le salaire peut être considéré comme un élément complémentaire de la qualité de l'emploi dans les grandes comme dans les petites entreprises. En Grande-Bretagne, cette relation est faible dans les grandes entreprises et non-significative dans les petites.

Le troisième chapitre adapte au marché du travail, le modèle d'Hirschman sur le comportement des consommateurs. Nous faisons l'hypothèse que l'insatisfaction liée à la rémunération doit favoriser la stratégie *exit* alors que l'insatisfaction liée aux conditions de travail doit favoriser la stratégie *voice* et l'action collective. La logique de cet arbitrage est basée sur l'information : d'abord, l'information sur le prix des autres choix possibles est beaucoup plus accessible que l'information sur la qualité. Ensuite, la stratégie *voice* produit plus d'information que la stratégie *exit* et crée plus d'opportunités pour des améliorations spécifiques. Afin de tester ces hypothèses, trois bases de données couplant des informations employeurs – salariés sont utilisées dans ce chapitre : des enquêtes Britanniques WERS (WERS 2004 ; WERS 2011) et, pour la France, les enquêtes REPONSE (2005 ; 2011) appariées aux données administratives sur les salaires et des flux de main-d'œuvre et l'enquête SalSa (*Les Salaires vus par les Salariés).* Les résultats soutiennent l'hypothèse d'Hirschman pour les deux pays au niveau du salarié et au niveau de l'établissement : une détérioration de l'indice de conditions de travail augmente la probabilité de participation à l'action collective alors que l'augmentation du salaire horaire diminue la probabilité de quitter son emploi.

JEL: B52, J21, J28, J31, J52, J63, J81, I31

ABSTRACT

The contribution of this thesis is to examine the evolution of job quality from the perspective of the workplace using the British *Workplace Employment Relations Surveys* (WERS 2004 and 2011) and the French *Enquête Relations Professionnelles et Négociations d'Entreprises* (REPONSE 2005 and 2011). The thesis consists of three chapters and complements three main strands of the existing literature. The first chapter explores the impact of workplace adjustment practices on job quality in France during the recession. The second chapter examines the role of institutional regimes in Great Britain and France in explaining the cross-national variation in job quality. Finally, the third chapter investigates the strategies employees adopt in order to cope with their pay and working conditions.

Drawing on French cross-sectional linked employer-employee data (REPONSE 2005-2011), the first chapter provides empirical evidence on the links between changes in business activity and job quality in two different contexts: one in a favourable economic situation in 2005 and the other one post-crisis in 2011. Furthermore, this chapter investigates how a change in business activity interacts with a change in employment and what the impact is on the job quality of French employees. The findings confirm that perceptions of work intensity, job insecurity, and job promotion prospects changed after the 'Great Recession' of 2008-2009. The hourly pay is higher in 2011 than in 2005. Although in the post-crisis context employees perceive to have more promotion opportunities and lower job insecurity, the results show that, once both activity and employment decrease, employees perceive insecurity to be higher and promotion opportunities scarcer.

The second chapter examines whether macro-level features can explain country differences in perceived job quality drawing on theoretical frameworks from the *varieties of capitalism* and *power resource* approaches. Furthermore, the chapter investigates the impact of firm size on job quality in two different national institutional regimes – France and Great Britain. Overall job quality appears to be higher in large firms in dualist regimes than in small firms, whereas in market employment regimes job quality is lower in large firms than in small ones. Furthermore, the chapter shows that pay can be viewed as a complementary part of job quality in both large and small firms in France, whereas in Great Britain the relation is weak in large firms and not significant in small ones.

The third chapter adapts the *exit-voice* Hirschman's model of consumer behaviour to the labour market and argues that dissatisfaction with pay should favour quitting while dissatisfaction with working conditions should favour collective action. A rationale for this

trade-off is based on information: first, information on the price of alternative options is much more accessible than information on quality; second, *voice* produces more information than *exit* and creates opportunities for specific improvements. The chapter uses three linked employer-employee datasets to test this: the British 2004 and 2011 WERS surveys, the French 2005 and 2011 REPONSE surveys matched with administrative data on wages and labour flows, and the French SalSa survey (*SalSa*, *Les Salaires vus par les Salariés)* (2008-2009), a cross-sectional file matched with an administrative panel. The results support the Hirschmanian hypothesis in both countries, at the individual as well as at the aggregate establishment level: a deterioration in the working conditions index increases the probability of participation in collective action, while an increase in hourly wage decreases the probability of quitting.

JEL: B52, J21, J28, J31, J52, J63, J81, I31

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General Introduction

Job quality has attracted considerable attention from academics and policy-makers as it contributes to economic competitiveness, social cohesion and personal well-being. Job quality is a multidimensional and contextual phenomenon, differing among individuals, occupations and labour market segments, societies and historical periods (Findlay *et al.*, 2013). A detailed understanding of how the level and nature of job quality varies within and between countries and of the factors that shape job quality is particularly relevant to policy-makers as it enables them to formulate effective job quality improvements. It is well-known that job quality is determined by employers' decisions on their employees' working conditions (Osterman, 2013). This suggests that employees' perception of job quality is related to the workplace *where* they work. However, little is known about the link between workplace characteristics and perceived job quality.

Indeed, many attempts have been made to understand how firms decide their overall strategy and what role economic considerations play in relation to political and institutional factors such as internal firm policies, slowly changing norms within firm, trade union power, and governmental policy but with little considerations being given to job quality (Baron *et al.*, 1986; Osterman, 2011; Holman, 2013). Universalistic arguments assume that market and economic forces are so strong that firms tend to become more similar and that the conditions determining job quality become more homogeneous over time whatever the institutional contexts are. For example, Green (2006) argues that technological and organizational changes affect all firms. Many countries have experienced a growth in the number of low-paid jobs, relative to the number of jobs with middle-range pay, while the largest growth has been in highly-paid jobs (Autor *et al.*, 2003; Goos and Manning, 2007; Goos *et al.*, 2010). Organizational changes, such as the growth of teamwork and the rise of 'high-performance' management practices can be expected to affect jobs in all developed countries (Osterman, 2000; Danford *et al.*, 2008; Gallie *et al.*, 2012).

In contrast to universal theories, other scholars have stressed the influence of national-level institutions in affecting job quality. In particular, scholars engaged in comparative research in economics (Blanchard, 2005) and welfare state analysis (Scharpf, 2000) have argued that welfare state institutions and national employment systems influence the functioning of the labour market and shape labour market dynamics and mobility patterns. This debate led to the argument that job quality depends on a country's institutional regime (Hall and Soskice, 2001; Gallie, 2007; Holman *et al.*, 2009) as institutional regimes have

strong impacts on both the level and structure of employment as well as on labour market dynamics (Eichhorst, 2007).

When examining the broad trends in the quality of work in different countries economists mainly follow the universal approach. According to this approach, firms and employment relations should not differ in their fundamentals across countries, and, to the extent that globalization and technological innovation foster increased market competition, there will be an imperative towards convergence in term of the boundaries of the firms and their behaviours. Institutional economists and social scientists, on the other hand, stress the importance of heterogeneity in employer and worker practices, behaviour and attitudes. This heterogeneity arises from the specificity of institutional settings which results from historical and societal differences both across and within countries. This approach does not deny that national systems could be affected by broader global or regional pressures but emphasizes that actors in different "varieties of capitalism" will react to pressures in different ways (see Maurice, 2000; Hall and Soskice, 2001). One of the main advantages of the institutional approach is that it stresses variety among societies even if they experience similar pressures. Furthermore, since workplaces are embedded in their local environment and employer strategies are conditioned by multiple institutions, it also takes into account the effects of institutional interactions (Hall and Soskice, 2001). Thus job quality cannot be analyzed without taking into account *where* workers are employed, not just who they are and the occupations they have chosen.

The workplace is introduced as a determinant of job quality because it can enhance our understanding of how firms in different institutional systems influence job quality. For example, the recent evidence from Bryson and Freeman (2013) suggests that most of the variance in problems employees report at work is related to the workplace that employs them rather than to who they are or the job they are doing. Similarly, Barth *et al.* (2014) and Song *et al.* (2015) show that most of the growth in wage variance in the United States since the 1970s is accounted for by where you work not who you are. The existence of these 'workplace effects' poses the question of whether their impact on job quality will be similar in the context of the crisis, given that during recessions firms in different institutional regimes tend to implement different workplace adjustment practices.

Following the institutionalist approach, it may be assumed that workplace adjustment practices depend mainly on the labour market institutions and flexibility policies with regard to contracts, collective bargaining levels, wage setting mechanisms and the national industrial relations system. If a firm is experiencing a change in its output, adjusting the labour force

can be costly because of hiring and firing costs, and the regulation of labour contracts. However, labour market policies may also support certain categories of workers at the expense of others, as the interests of certain categories of workers depend on the decisions of their employers and unions. Thus another question arises whether or not these 'workplace effects' on job quality will be similar in different institutional settings.

Examining the impact of 'workplace effects' on job quality is necessary from a policy perspective as a deterioration in job quality may lead to higher quit rates, lower productivity and higher absenteeism (Böckerman and Ilmakunnas, 2012; Zelenski *et al.*, 2008). In particular, high quit rates are a significant cost to organizations because they both raise labour costs (Oi, 1962) and lower organizational performance (for example, Norsworthy and Zabala, 1985). Consequently, it is also necessary to examine what strategies employees adopt when faced with poor working conditions and low pay. When do employees choose to express their dissatisfaction with regard to working conditions? When do they quit? Voice, as defined by Hirschman (1970) is any attempt to change rather than escape from an unsatisfactory situation. In the employment context, voice involves the expression of dissatisfaction by employees. Exit occurs when employees quit. In order to examine in details what strategies employees undertake when they are dissatisfied with their working conditions and pay, we will use Hirschman's (1970) exit-voice framework which identifies a range of circumstances in which markets may fail to provide organizations with effective feedback and in which employee voice might lead to improved organizational performance. The results will lead to a discussion on which strategy institutions should favour within workplaces in order to obtain beneficial outcomes for both employers and employees.

Contribution

My thesis intends to complement three main strands of the existing literature. The contribution of the current study is to highlight the importance of the workplace in explaining the variation of job quality. Individuals with similar characteristics in similar jobs may perceive different levels of job quality because of the workplace they are in. For this reason, Van Wanrooy *et al.* (2013) stress the importance of the workplace as an important determinant of job quality.

Most empirical studies using workplace data have focused on job satisfaction and well-being rather than job quality (Breda, 2014; Haile, 2012; Haile, 2015). Böckerman *et al.* (2012), using Finnish linked employee-employer data, show that high involvement practices (team work, problem solving groups, information sharing, incentive pay) are associated with higher

employee well-being and also with shorter periods of absence. Using British linked employee-employer data, Haile (2012) finds that gender diversity in the workplace is associated with lower employee well-being for women. That result is not altered by gender equality policies or practices. Contrary to Haile (2012), Breda (2014) shows that the percentage of women in a workplace increases job satisfaction in Britain. These studies provide an important contribution to the existing literature using a rich linked employee-employer data and accounting for employee and workplace-level unobserved heterogeneity. However, there is little evidence on the impact of 'workplace' characteristics on job quality. Therefore, I will be able to contribute to the job quality literature by examining, firstly, the impact of 'workplace effects' on employee job quality during the recession and, secondly, the impact of 'workplace effects' on employee job quality in different national contexts.

The second strand comprises studies of job quality that are based on survey data for multiple countries (for example Eurofound, 2012a; Gallie *et al.*, 2007a; Bloom and Van Reenen, 2010; Bryson *et al.*, 2012). These studies typically focus on the identification of broad similarities or differences between nations or country groups. According to the employment regime framework, job quality should be different between countries when they have different national institutional regimes (Gallie, 2007b). The differences in national institutional regimes are related to employment policies and the relative capacity of organized labour. My contribution adds to this strand of the literature by emphasizing the role of institutional regimes in Great Britain and France in explaining the cross-national variation in job quality. Given that the capacity of organized labour to exert influence may depend on size of firm (Holman, 2013), the variation in job quality will also be examined in relation to firm size.

Finally, my thesis contributes to the job quality literature by examining the strategies employees adopt in order to cope with their pay and working conditions. Hirschman's seminal book *Exit, Voice and Loyalty* (1970) is typically invoked in order to understand workers' strategies for coping with their pay and working conditions. Although Hirschman's exit–voice theoretical model has been applied to labour markets, research up to now has not tested one of its most important features: the impact of job quality on exit–voice strategies. The market view sees collective action as inefficient, and even when it leads to improvements for workers it does so at the cost of deviating from market equilibrium. Exit, on the other hand, is viewed as a pure market strategy that is both individually improving and helps to establish the true market equilibrium. The results will show which strategy contributes to the improvement of job quality and low turnover at the workplace.

This PhD thesis is not the first to examine trends in job quality (for example, Davoine, 2007); however, one of the unique contributions of this thesis is that it examines the variation in job quality from the perspective of the workplace. In order to be able to examine empirically the 'workplace effects' on job quality during the crisis or from an institutional perspective (France and Great Britain), I use the linked employer-employee data that provides a unique and detailed insight into the operation of workplaces and the experiences of workers. The data are taken from the British *Workplace Employment Relations Surveys* (WERS 2004 and 2011) and the French *Enquête Relations Professionnelles et Négociations d'Entreprises* (REPONSE 2005 and 2011). These comprise national surveys of establishments and their employees, carried out at very similar times with very similar methodologies. They provide rich information on the two countries' workplaces – their structural characteristics, ownership patterns and management practices – alongside detailed information on the experiences and attitudes of their employees. The surveys have not been explicitly harmonized, but they were developed in parallel and contain many comparable data items. They have the advantage of providing larger samples than some of the most prominent harmonized cross-national surveys (such as the *European Working Conditions Survey* and the *European Social Survey*), with the major advantage that the data from employees and their workplace managers can be linked.

In order to define more precisely the various theoretical as well as empirical issues raised above, five points are addressed in this introduction that will be developed in the thesis. I firstly discuss the importance of examining the job quality of 'survivors' in the context of the crisis, and in particular why workplace characteristics are important in explaining survivors' perceptions of job quality. Secondly, I discuss why it is important to examine job quality from a comparative perspective. In order to be able to explain this, I introduce Varieties of Capitalism theory (Hall and Soskice, 2001) and the Employment Regime approach (Gallie, 2007). In the third part of the introduction, I discuss the strategies employees adopt when faced with poor working conditions and low pay using Hirschman's (1970) exit-voice model. Given that this thesis examines trends in job quality, it is also necessary to discuss how this concept is treated in the literature, and what the possible definitions are. In the fourth part, therefore, I provide a review of the literature on the definition of job quality. Finally, in the fifth part of the introduction I present the data that will be used throughout the thesis.

1/ Crisis, Workplace Adjustment Practices and Job Quality of 'Survivors'

The improvement of job quality has been the central aim of the EU's Employment Strategy since the Lisbon Strategy 2000 as policy-makers recognize that the quality, and not just the quantity, of jobs is central to improving individual well-being and national competitiveness. Nevertheless, the economic crisis of 2008, which was triggered by the global financial crisis, and started in the EU towards the end of 2007, might have led to significant changes in job quality. The economic crisis may have accelerated a long-term process of labour market polarization (Kalleberg, 2011) and may also have increased inequalities between the 'losers' who lost their jobs and the 'survivors' who survived the initial shock (Gautié, 2011). The effects of the crisis might also have mitigated by the influence of existing institutional structures (Gallie, 2011).

There has been long-standing research on the potential effects of previous recessions on the lives of the unemployed. Recession has been shown to cause economic and psychological deprivation (Warr, 1987; Clark and Oswald, 1996; Gallie and Russell, 1998). However, research on the effects of economic crisis on the job quality of those who remain at work is still limited. It could be that these employees perceive their own job security to be higher as others experience redundancy; employees may also perceive a deterioration in the working environment, increased pressures at work, and fewer opportunities for career development. The empirical evidence used in a US study showed that people who had experienced recession previously believed that luck rather than effort was the most important factor behind their success (Giuliano and Spilimbergo, 2009). In order to be able to examine the evolution of job quality among 'survivors' in the context of the economic crisis, it is necessary to take workplace characteristics into account, since different firms react to the crisis in different ways. Some firms may reduce output; others may choose to reduce flexible wage components, cut base wages, reduce working hours, discontinue temporary employment contracts or lay off permanent employees (Kwapil, 2010). This suggests that employees' perception of job quality is related to the workplace situation and that job quality may differ depending on whether or not the workplaces in question were affected by the crisis.

Existing studies suggest that firms have adopted significant workplace adjustment practices in the post-crisis context in response to the shock (Perez and Thévenot, 2014; Bentolila *et al.*, 2010; Askenazy and Erhel, 2015). A number of scenarios can be drawn from these adjustment practices with regard to the evolution of job quality for employees. If economic activity in the workplace decreased, firms could have cut jobs, which would in turn

have had an impact on the separate components of job quality (for example, job security, work intensity and promotion opportunities). In contrast, if economic activity in the workplace remained stable, job quality could have remained stable as well. These observations highlight the fact that the evolution of job quality is determined to some extent by the characteristics of the workplace. Thus in order to explain the evolution of job quality during the recession, it is necessary to take into account 'workplace effects'.

France makes an excellent subject for investigation in this respect, not only because of the rich and reliable data that are available but also because of the potentially important role labour market institutions and flexibility policies play. In contrast to Anglo-Saxon countries, French unions have an institutionalized role in the adoption of political reforms. In order to keep their institutional power resources, unions, *de facto*, defend the two-tier labour market reforms as their preferences are dependent on the institutional context (Davidsson and Emmenegger, 2013). Specifically, while negotiating on job security legislation, unions are intent mainly on defending the protection afforded employees on permanent contracts so they end up compromising on the regulation of temporary employment. This strategy gives them a chance to retain their institutional role and protect their organizational interests. However, in the context of the crisis, this institutional context serves to widen further the gaps with regard to job quality between permanent and temporary workers. The reason is that the employees who 'survived' the economic crisis in France are more likely to be permanent workers, while the ones who lost their jobs and did not get the chance to renew their contracts tended to temporary workers.

Although the survivors withstood the initial shock, it is necessary to examine what happened to their job quality in two different contexts: one a good economic situation, when the workplaces were not affected by the crisis, and the other one post-crisis. Furthermore, it is necessary to examine the impact of workplace adjustment practices on the separate dimensions of job quality, since the composite indicator of job quality does not reveal which dimensions were particularly affected.

These observations highlight the importance of considering 'workplace effects' on job quality as they can influence employees' working conditions. Furthermore, in the second part of my thesis, I examine whether the impact of these 'workplace effects' on job quality will be similar in different countries which have different institutional systems. The broad expectation is that there will be a persistent differentiation in distributions of job quality.

2/ Job Quality and Institutional frameworks

There has been growing interest among job quality scholars in how job quality is affected by institutional patterns and cultural norms. There are several institutional theories that seek to elucidate the historical and current preferences and strategies of all parties in the employment relationship structure. In this strand of the literature, the scholars of societal analysis (Maurice *et al.*, 1982) argue that there is no universal best practice and that firms' practices and policies are context dependent (Maurice *et al.*, 1982). A significant role has also been allotted in this strand to the concept of 'industrial order' (Lane, 1989) and to national business systems theory (Whitley, 1999). Varieties of capitalism theory (hereinafter VoC) (Hall and Soskice, 2001) has also been very influential[1] in the analysis of job quality in welfare states. A potentially attractive feature of this theory is that it draws attention to the presence of institutional interaction and therefore it offers the opportunity to examine workplace policies that have been shaped by multiple institutions (Hall and Soskice, 2001).

VoC theory follows in the tradition of other societal institutionalist approaches (see Maurice *et al.*, 1982; Whitley, 1999) and treats firms as actors dependent on several institutional structures that enable them to integrate, coordinate and control resources. These institutional structures may be property rights, access to markets or definitions of the rights and obligations of individual and collective labour. Following the argument that 'many of the most important institutional structures – notably systems of labour market regulation - depend on the presence of a nation state' (Hall and Soskice, 2001: p. 4), it is argued that the specific forms of capitalism are likely to be constructed internally within societies. This approach makes it possible to examine the 'relational view' of different actors, for example, financiers, employees, unions and other firms (including suppliers as well as competitors) and draws particular attention to the variations between national economies, on the premise that the state is an important regulator of business and shapes the business environment. The authors do not deny that national systems could be affected by broader global or regional pressures, but they emphasize that actors within different varieties of capitalism will react to pressures in different ways (see Maurice, 2000).

VoC theory constructs a 'spectrum' of possible types of political economies under advanced capitalism and categorizes countries on the basis of how organizations coordinate their actions with other actors (Hall and Soskice, 2001). The distinction between regimes reflects the interrelations among four main institutions: the financial system, the industrial

[1]The most cited comparative framework in the industrial relations field (see Friel, 2005; Geppert *et al.*, 2003; Hammann and Kelly, 2003; Kilkauer and Donn, 2004; Thompson, 2003; Godard, 2004; Gallie, 2007; Gallie, 2011).

system, the educational and training system, and the inter-company system (Soskice, 1999). Proponents of VoC theory argue that a crucial difference between societies is related to *the nature of employer coordination* (Hall and Soskice, 2011). In societies where employers are well coordinated (coordinated market economies - CMEs), firms attempt to build collaborative, long-term relations with workers, produce high-quality products, and invest in the development of a highly skilled workforce that has both occupational and firm-specific skills. In contrast, in economies where relations between firms are mainly competitive rather than collaborative (liberal market economies - LMEs), employment systems will tend towards decentralized, firm-level regulation. This suggests that employers are highly fragmented in their bargaining practices, produce standardized mass products and invest little in training by relying on a relatively low-skilled workforce with little specialized vocational training.

Overall, CMEs encourage long term financing relationships, cooperative industrial relations, serious initial vocational training and substantial cooperation on setting technological standards. LMEs emphasize the importance of market-driven skills, which produces a lower and more unequal level of skills than the coordinated systems. This suggests that CMEs and LMEs coordinate economic activity in different ways: CMEs try to maintain high levels of coordination, while LMEs continue to deregulate (Almond and Menendez, 2006). Furthermore, in the light of the new competitive pressures produced by globalization, Hall and Soskice (2001) argue that firms in LMEs would seek further deregulation in order to establish more flexibility and to exploit the comparative advantages offered by that form of economy. This suggests a reduction in the strength of collective labour and a general trend towards further marketization. Hall and Gingerich (2004: 13) argue that further marketization will lead to greater inequality within society and that weak unions will be unable to resist it. In contrast, CMEs facing increased competitive pressures, as in times of economic crisis for example, seek institutional support in order gradually adapt their activities through the mechanisms of coordination rather than deregulatory initiatives (Hall and Gingerich, 2004: 33). This should suggest relative stability in the industrial relations system and a continued role for collective labour at both the workplace and national levels. However, Almond and Menendez (2006) argue that the important question is not whether there is 'change' or 'stability' within national systems of capitalism but rather when a change is occurring, whether it is taking place *within* established institutions or should be seen, conversely, as a *challenge* to the entire system.

In discussing these broad differences in the nature of employment regulation between LMEs and CMEs it is important to look at such evidence in detail, and examine how such

differences have an impact on job quality. In order to examine the variation in job quality in different institutional systems, in my PhD thesis I compare France and Great Britain, two countries that represent different types of economic regime.

VoC theory situates Britain among the LMEs which provide limited employment protection, low investment in workplace training and limited regulation of pay setting (Green, 2013). This suggests a labour market characterized by employment mobility and wage flexibility, where employers do not provide career development opportunities, but do provide skills that are easily transferable and needed in many firms (Eyraud *et al.*, 1990)[2]. The position of France is not clear in Hall and Soskice's binary classification of economies. In general, there is confusion about how Hall and Soskice's approach deals with the 'southern' European economies, which do not fit into the CME/LME typology. Amable (2003) places France into the so-called Mediterranean type of capitalism[3] in which state intervention is high. Schmidt (1996) classifies France's economic regime as state capitalism[4], on the grounds that France's interventionist state has tried to direct economic activities through planning, industrial policy and state-owned enterprises. However, most industrial relations scholars point to clear distinctions between the Anglophone economies, on the one hand, and the European economies referred to as CMEs, on the other hand (Almond and Menendez, 2006). Thus France is regarded as a CME, characterized as it is by stringent employment protection, legislative support for workplace training, and extensive support for the joint regulation of pay.

In order to understand how institutional influences in each type of economy have an impact on job quality, Gallie (2007) developed the employment regime approach and suggested examining employment policies and the relative capacity of organized labour (Esping-Andersen, 1990; Korpi, 2006). Gallie (2007) identified three types of national institutional regimes, described as inclusivist, dualistic and market employment regimes respectively. He argues that each regime can be differentiated in terms of its employment policies, the role attributed to the public sector, the importance of quality working life programmes, the institutional support of welfare protection offered to the unemployed and

[2] This explains why Britain is characterized as having an occupational labour market (OLM) in which there are more extensive flows of labour across local labour market and between firms once basic training is complete (Eyraud *et al.*, 1990).

[3] The statistical analyses by Amable (2003) put France, Spain, Portugal, Greece, Italy and Turkey into a separate 'Mediterranean' category.

[4] Nevertheless, Schmidt (2003) argues that state capitalism has lost its empirical validity because of the liberalization of financial markets, privatization and deregulation.

the relative capacity of organized labour[5] to participate in decision-making process (Gallie, 2007).

Inclusivist regimes (Sweden, Denmark) are characterized by organized labour's strongly institutionalized participation in decision making and by policies that support employment rights and employment throughout the working population. In inclusivist regimes, organized labour will use its power resources to generate employment and protect its members. High employment policies strengthen employees' power at workplace level and encourage the development of policies that contribute to gender equality and the development of work-family policies (Gallie, 2007).

Dualistic regimes (Germany, Austria and France) are characterized by a well-protected core of workers, surrounded by a growing precarious periphery. In dualistic regimes, organized labour has a weak capacity to realize its aims and promote skills levels and pay increases but it has a strong influence on those areas of the economy where it can mobilize the workforce, such as the core employees of large firms (Culpepper, 1999; Hyman, 2001). The mode of employment regulation provides strong employment protection and generous welfare support for the core workforce, but poorer working conditions for those on standard contracts. This 'selective' approach to labour market inclusion is detrimental to women, the young, the low-skilled and older workers.

Market employment regimes (UK, US, Canada) are characterized by weak employment regulation, and the assumption being that employment conditions and employment levels are regulated by the market (Gallie, 2007). Organized labour has little involvement in the decision-making process between firms and the government, as it is seen as a competing interest group (Hyman, 2001). The result is that organized labour is highly fragmented and has little power to influence employment and working conditions. This implies that the level of employment is not considered to be an appropriate political objective and that employment conditions are the concerns of individual employers (Gallie, 2007).

The distinctiveness of these regimes is driven by the nature and strength of trade unions. The relation between job quality and unions has been discussed in previous studies, and many scholars have shown that higher levels of job quality can be linked to the strength and policies of unions (Gallie, 2007; Esser and Olsen, 2011; Bryson and Freeman, 2013). When trade unions are weak, changes are likely to appear in both the levels and inequality of job quality (Green *et al.*, 2013).

[5]An association of workers united as a single, representative entity for the purpose of improving workers' economic status and working conditions through collective bargaining with employers. Organized labour can also be called "trade unionism ".

Furthermore, Holman (2013) argues that firm size can have a strong impact on job quality as the historical involvement of organized labour in large firms increases the chances of influencing working conditions and employment regulation (Gallie, 2007). The author produces an analysis of an establishment-level survey of call centres, and argues that in dualist regimes the mean level of job quality is higher in larger firms than in independent single-site call centres. In dualist regimes, workers in large firms may have higher bargaining power as organized labour may provide stronger support in order to influence employment regulation. This suggests that the job quality may be higher in large firms in dualist regimes than in small firms. However, Holman (2013) argues that this should not occur in market employment regimes as in such regimes the influence of organized labour should be uniform across different parts of the economy.

This debate highlights the importance of investigating the impact of size of firm on job quality in two different employment regimes, namely the dualist and market employment regimes. Furthermore, one might expect workplace size to be a more important determinant of job quality than firm size. Besides Holman's argument that the organized labour is stronger in larger firms in dualist regimes we also took into consideration that fact that employers' ability to provide better working conditions also depends on their monopoly power in the product market; this is often proxied by firm size (Oi, 1983). Thus it was decided to consider the relation between firm size and job quality rather than that between workplace size and job quality.

In the second part of my PhD thesis, therefore, I contribute to debates about the nature of employment relations in France and in Great Britain and to the wider examination of the role of firm size in shaping job quality. In order to examine the institutional differences between France and Great Britain and the extent to which the British and French economies truly fit the LME/CME typology (Visser, 2009; Schmidt, 1996), I further distinguish between the pecuniary and non-pecuniary aspects of job quality in order to test for compensating differentials in France and in Great Britain. Following VoC theory, one may hypothesize that the pecuniary aspects of job quality are more likely to be a complementary part of job quality in CME countries than in LME countries. This relation is examined in detail in Chapter 2 in both large and small firms in the two countries.

The description of institutional differences between France and Great Britain is also examined with the aid of aggregate labour force statistics. Although OECD (2015a) and OECD (2015b) show a higher incidence of temporary contracts in France (14 per cent compared with 6 per cent in the UK), job tenure appears to be longer as well (12 years on

average, compared with 9 years in the UK). The employment protection index also appears to be higher in France (2.38 compared with 1.26 in the UK) (OECD, 2011). In practice, however, there is likely to be substantial heterogeneity both between and within workplaces. The local heterogeneity may arise from differences in product and labour markets, which affect both the production regime and the balance of power between capital and various types of labour.

Furthermore, discussions between the social partners in France are facilitated by the state through legislation supporting employee representation at various levels, even though in comparison to other CMEs, the state is not an active participant. The British system of employment relations is characterized as 'voluntarist', with employers and employees left to negotiate their own settlements. Examination of the aggregate statistics shows trade union density to be higher in Britain (25.6 per cent compared to 7.7 per cent in France) (OECD, 2011).

France has the lowest union membership rates but also has the most trade unions (Eurofound, 2010; Combault, 2006). Since the 1980s, the unions have experienced a substantial decline in membership. However, this has not endangered their existence, since their electoral support results remain unchallenged and their influence over work councils provides them with additional resources. Furthermore, trade union representation is a common feature in many private-sector workplaces (Combault, 2006). The coverage rate of collective agreements is almost 98 per cent. In contrast to Britain, the French unions have strong political traditions and still always have a greater institutional position in French society by virtue of their involvement in the administration of training and unemployment funds.

Institutional economists have used Hirschman's exit-voice theory (Hirschman, 1970) to argue that unions – and possibly other forms of voice reduce labour turnover and provide employees with opportunities to influence their work environment through collective discussion and negotiation or through industrial action (Freeman and Medoff, 1984; Wood, 2008). However, identifying voice with unionization might be misleading for several reasons. Firstly, union presence is an institutionalized variable and it may not reflect the clear expression of employee voice. In Hirschman's original model, voice is described as two-way communication between the organization and consumer. Secondly, the history of voice regimes in establishments can be different from one historical period to another (Willman *et al.*, 2009). For example, union presence at establishment level was much more common in France and in Britain in the 1980s than in 2012 (Blanchflower and Bryson, 2009; Goetschy

and Jobert, 2004; Green, 2006; Bryson and Forth, 2011; van Wanrooy *et al.*, 2013; Askenazy, 2004).

3/ Employees' exit-voice strategies and job quality

In the third part of my thesis, I examine the impact of exit and voice strategies on job quality and pay. Previous empirical studies have highlighted the importance of exit strategy as a basic market mechanism. Hirschman conversely argues that the voice strategy may be more efficient than exit. The central mechanism relies on the exchange of information that comes into play in these two strategies. A worker will know much more about the pay in a new job than about the working conditions. Job quality is a multidimensional and partly subjective phenomenon that is much more complex than information about pay. Although 'quality' is at the core of Hirschman's book (Barry, 1974), this important aspect remain untested when the concepts of voice and exit are applied to the labour market. Thus in the third part of the thesis I contribute to the job quality literature by providing a detailed application of Hirschman's exit-voice framework to the labour market while stressing the importance of job quality.

Finally, a key issue in the study of job quality, and the subject of an extensive academic debate, is how it should be measured. Approaches to the definition of job quality are heterogeneous and there is a lack of consensus on the subject. Consequently, I will present a review of the literature in order to examine which dimensions of job quality are usually taken into account. Having a good measure of job quality can contribute to our understanding of the trade-off between the quality and quantity of jobs and facilitate the empirical investigation of employment regimes in terms of the quantity/quality trade-off (Gallie, 2007; Munoz de Bustillo *et al.*, 2011).

4/ Definition of job quality

Debates about job quality are at the centre of attention among social scientists and policy-makers as it has a strong impact on individual, firm and national well-being (Findlay *et al.*, 2013). At the micro level job quality is usually found to be positively associated with workers' well-being (EC, 2008; OECD, 2014). At the meso level scholars highlight the relationship between job quality and welfare states and examine whether national differences in regulations and in labour market institutions have an impact on paths of development (Olsen *et al.*, 2010). Finally, at the macro level recent contributions to the academic debate have stressed the importance of examining the impacts of high quality jobs on lower

unemployment and higher employment participation, which means that the evidence of the impact of good jobs on innovation and high productivity may provide the justification for policy (Knox *et al.*, 2011).

Most of the economists who examine the variation in job quality use a multidisciplinary approach and include a variety of dimensions in the composite measure of job quality (Guillén and Dahl, 2009; Munoz de Bustillo *et al.*, 2011; Davoine *et al.*, 2008). However, there are some disagreements among scholars from different disciplines with regard to the definition and measurement of job quality (Sen Gupta *et al.*, 2009).

In 'standard' labour economics, job quality is captured by the wage level; in sociological or industrial relations studies pay is excluded from the analysis because it is viewed as part of employment rather than inherent in the job itself (Gallie, 2007a). Furthermore, some scholars rely on a single indicator (Bryson and Freeman, 2013; Osterman and Schulman, 2011), while others advocate multiple indicators (Clark, 2005). In this latter case, there are various disputes as to the weighting of each indicator. The most frequent issue remains the lack of availability of appropriate data (Leschke and Watt, 2008). To make this issue clearer, in the current section we will discuss two main ways of measuring job quality: the subjective and objective approaches.

The subjective approach focuses on workers' responses with regard to their satisfaction levels with different aspects of work. Job satisfaction has been used as a summary index measure of job quality, and the implication is that if a worker is satisfied with his/her job, this may suggest that his/her job is a high-quality one (Clark, 2011). This approach has been widely used by economists because of data availability in nationally representative surveys (Sousa-Poza and Sousa-Poza, 2000; Green, 2006).

However, some academics argue that job satisfaction as a measure of job quality in nationally representative data is problematic as workers tend to adapt quickly to bad working conditions. Consequently, reported job satisfaction is higher than the actual job quality (Burchell *et al.*, 2007). As a result, information about the actual job quality is poor. For example, many scholars have shown that the average job satisfaction is higher among female workers than among male workers even though their working conditions are objectively poor. Clark (1997) explains this puzzling situation by the norms and expectations prevailing in a particular national setting at a particular period in time. This may imply that if female workers report higher levels of job satisfaction, then the jobs in question match their norms and expectations and they may therefore perceive their job quality to be high. Inglehart (1977) argues, conversely, that norms and expectations cannot be fixed and can change

quickly in response to changes inside and outside the workplace (Corby and Stanworth, 2009). Therefore, Brown *et al.* (2012) suggest, as a result, that job satisfaction measures should be abandoned altogether, to be replaced by objective measures of job quality.

Although job satisfaction is not regarded as a good measure of job quality, it can be a good indicator, depending on the aims of the research question. For example, it can help us to understand how workers who are very dissatisfied with their working conditions such as a poor work–life balance, try to improve their situation. In fact, many scholars have shown that there is a negative relation between job satisfaction and quitting and that job dissatisfaction is a robust predictor of quitting behavior (Clark, 1996). For example, Freeman (1978) argues that subjective responses to job satisfaction might help to explain objective economic behaviour such as quitting. This is another reason why job satisfaction has been used instead of job quality in labour economics papers in order to explain quitting behavior by drawing on Hirschman's exit-voice theory (Hirschman, 1970).

In economics, a more objective approach to measuring job quality has been developed by Sen (1999). Sen's capability approach stresses the importance of a broad range of indicators that enhance the capabilities of individuals (for example, education), as well as variables that individuals have reason to value for their own sake. These valued 'doings' and 'beings' are called 'functionings' and Sen and Nussbaum identify the key functionings as: bodily health; emotions, practical reason, affiliation, play, and control over one's environment. The capability approach argues that simply observing the employment rate in the labour market is not enough and that it is necessary to examine whether individuals who want to work are capable of doing so. This means that it is necessary to consider the quality of jobs and what individuals can achieve with a given set of job characteristics.

Applying Sen's capability approach to job quality, Green (2006) suggests evaluating the capabilities that are afforded to workers in the job in order to achieve well-being. The author does not propose an objective system of measuring job quality but suggests several key dimensions: skills, work intensity, risk of personal harm, job loss and personal discretion and pay. The presence or absence of these dimensions may determine whether workers are capable of achieving well-being at work or not.

One problem with the capability approach is that employment indicators are not as clear as the well-being indicators (Sehnbruch, 2004). For example, everyone agrees that higher income helps people to acquire more capabilities. However, the desirability of different job characteristics depends largely on workers' personal needs and circumstances. A student wanting to earn extra money will be satisfied with part-time work; however, the same job

would probably be a highly unsatisfactory one to a person aiming to a build a career. Different employees identify different characteristics of high or low quality jobs as important, which goes to show that people differ in what they consider to be high or low job quality. The value of job quality for an employee may depend on personal preferences of money and amenities[6] (Bonhomme and Jolivet, 2009). Different jobs can have the same quality value for a worker insofar as they offer different but compensating combinations of wages and amenities. Thus we have to take into account the fact that, even for the objective criteria (for example, type of contract or social security coverage) there is no straightforward and objective order of preference.

In deciding which dimensions of work to include in our definition of job quality, we follow Budd's and Spencer's (2014) comprehensive approach. They agree with Munoz de Bustillo *et al.* (2011) that the debate between subjective and objective approaches should draw from the wider social science literature and follow Budd's (2011) comprehensive examination of work across the humanities and the social and the behavioural sciences. In discussing key meanings of work for workers and communities, the authors compare the relation between personal costs and benefits with social costs and benefits. For example, working under high pressure can be stressful but on the other hand performing monotonous work may also lead to mental degradation. Employees who are stressed by work are more likely to be absent, and health care service will be necessary for them.

A substantial amount of research has been undertaken in psychology on the detrimental effects of low control, high stress and long working hours on psychological and mental health (Siegrist, 1996)[7]. Deskilled employees will have less desire to widen their scope of attainments outside of work. In contrast, workers who are stimulated both socially and intellectually at work are more likely to be active participant in society.

Work also plays an essential role on various levels in identity construction. At the individual level, employees can develop a sense of individual purpose; at the workplace level, individuals can construct an identity with their occupation or employer, which will lead to a sense of humanness at the society level (Budd and Spencer, 2014). Freedom plays an essential role in the comprehensive framework. The opportunity to develop and utilize skills freely in work can contribute to human creativity. Thus the degree of autonomy offered to

[6]Type of work, working conditions, job security

[7]In this strand of the literature, scholars attach considerable importance to job-demands-control models as applied to job quality (Karasek and Theorell, 1990). The job-demands-control model suggests that employee well-being should be highest in active jobs, at a moderate level in passive jobs and lowest in high-strain jobs (Karasek and Theorell, 1990). For example, based on this model, scholars show that worker well-being is negatively related to job demands and positively to job control, and that high job control reduces the negative association between job demands and well-being (Wood, 2008).

workers is an important determinant of job quality (Schwartz, 1982). Schwartz (1982: 635) argues that 'people achieve autonomy to the extent that they lead lives of intelligence and initiative'. Part of autonomy includes being able to form some idea of personal interests and interest satisfaction and the ability to plan, evaluate, and revise choices and decisions. The author argues that many jobs are repetitive, degrading and overburdened with rules that seem to restrict liberty. Budd and Spencer (2014) link this to Marxian political thinking, which highlights freedom and argues that truly free labour is the source of worker well-being. To overcome this problem, Budd and Spencer (2014) suggest establishing democratic systems of governance in firms and putting in place mechanisms to involve workers in management's decision-making processes.

Overall, there is a consensus in the job quality literature on the multi-dimensional nature of non-pecuniary job quality and most scholars agree that working conditions, job autonomy, job demands, job security, training, skill development, skills usage and work-life balance should be included in any definition of what constitutes a good job (Davoine *et al*, 2008, Green *et al*, 2013, Muñoz de Bustillo *et al.*, 2011).

Using Linked Employer-Employee Data

As noted earlier, my thesis is based on two comparable surveys: WERS and REPONSE. In this section, I summarize the key features of the two surveys and highlight their capabilities (and limitations) in respect of comparative analysis.

For decades, quantitative cross-national studies have suffered both from a lack of comparability and from difficulties in contextualizing national situations. The development of harmonized international surveys has led to genuinely comparable cross-national micro-data on workers and firms, for instance on the labour force (*LFS*), working conditions (*EWCS, ESS*), work organization (*ECS*) and innovation (*EIS*). However, with many countries included in these surveys, it limits the extent to which it is possible to conduct an in-depth analysis of why one country may look similar to, or different from, another. In contrast, case studies offer great advantages for contextualized comparisons. The matched-plant comparisons undertaken in Britain and Europe in the late 1980s and early 1990s (Mason and Van Ark, 1994; Prais *et al.*, 1989; Steedman and Wagner, 1989) provide one exemplary model from the past. More recently, qualitative research undertaken for the Russell Sage Foundation's low-wage work in Europe project (Gautié and Schmitt, 2010; Lloyd *et al.*, 2008; Lloyd and Mayhew, 2010) focused on how jobs in a subset of identical low-paid occupations were organized in five European countries, among them Great Britain and

France. Although they are illuminating, such programmes are demanding in terms of data collection and research coordination. Nor is it easy to extrapolate the findings to the broader economy.

The surveys employed in our analysis – WERS (Department for Business Innovation and Skills, 2013) and REPONSE (Dares, 2013) – constitute unique empirical material for comparative research on workplace practices and employment relations, offering rich data to facilitate comparability and contextualization. Both surveys involve long face-to-face interviews with the managers responsible for employment relations in nationally representative samples of workplaces in the two countries. These interviews provide data on the broader enterprise to which the workplace may belong, but the primary focus is on the practice and character of employment relations at the local site (in other words, the local office, factory or shop). Both surveys also include self-completion surveys conducted among randomly sampled employees in those same workplaces. These self-completion questionnaires provide information on the job characteristics, experiences and attitudes of employees in those workplaces, thus ensuring that the surveys obtain a rounded picture from both sides of the employment relationship.

Both WERS and REPONSE have been conducted on a number of occasions, with the British survey having first taken place in 1980 and the French survey in 1992. However, we focus here on the latest two waves in each series: the WERS surveys of 2004 and 2011 and the REPONSE surveys of 2005 and 2011. In each of the 2011 surveys, there are many areas of common ground between the respective questionnaires, although some themes are covered in more detail in one than in the other and relatively few questions use precisely the same wording. In summary, the 2011 management interviews provide around 120 comparable data items, while the 2011 employee questionnaires provide around 25 further comparable items. Importantly, the changes to the survey questionnaires between 2004/5 and 2011 were relatively limited.

Clearly, some other surveys offer broader coverage of the two economies or a larger set of harmonized data items, but the WERS and REPONSE surveys offer the unique advantage that the samples of workplaces and employees are fully linkable in each country. In other words, the data obtained from each surveyed employee can be linked to the data on their workplace provided by the workplace manager. This is a powerful feature of the data for two reasons. First, it provides us with a more detailed picture of an employees' work situation than is typically provided in surveys of individuals. Second, it enables us to look at variation between employees in the same workplace.

The surveys also provide large samples for analysis. Our analysis can call upon equivalently defined samples of 3,947 workplaces from REPONSE 2011 and 1,602 workplaces from WERS 2011. These workplace samples do not give full coverage of the two economies, as both surveys exclude the smallest workplaces in their respective economies, and REPONSE covers only those workplaces operating in the trading sector. However, once common exclusions are applied to both surveys, the harmonized workplace samples are representative of workplaces that, in 2011, accounted for around almost three quarters (74 per cent) of all private sector employment – and around 55 per cent of *all* employment – in each of the two economies.

The surveys provide comparable data on a broad range of topics that are of central interest in employment relations, including multiple dimensions of job quality, collective action, workplace adjustment practices, skill development, employee representation, pay and workplace outcomes.

Turning to the samples of employees, our analysis can call upon equivalently-defined samples of 11,244 employees from REPONSE 2011 and 11,581 employees from WERS 2011. The employee samples are limited by REPONSE's sampling approach, which extends eligibility for the employee questionnaire only to those employees with 15 or more months' tenure. Thus our harmonized employee samples omit employees in WERS with tenure of less than one year. Nevertheless, in each country, our harmonized employee samples are representative of over four-fifths of all private-sector employees in workplaces with 11 or more employees (87 per cent in France and 83 per cent in Britain). This in turn makes them representative of around half of all employees in each economy.

The 2004 WERS-REPONSE cross-section surveys have a narrower coverage, because the 2005 REPONSE survey excludes all workplaces with fewer than 21 employees. However, the comparable workplace samples still cover populations that account for just under half of all workplaces in either country (49 per cent in Britain and 45 per cent in France). The employee samples in 2004 cover populations that account for around two-fifths of all employees (39 per cent in Britain and 41 per cent in France).

As the aim of the third chapter of the thesis is to examine the impact of poor working conditions and pay at t-1 on the exit-voice strategy at time t, it was necessary to use panel data. Both the REPONSE and WERS surveys were very helpful as both the 2011 WERS and the 2011 REPONSE surveys included a panel element in which interviewers returned to those workplaces that participated in the 2004 cross-sectional surveys, with the purpose of investigating the changes that took place in those workplaces in the previous six or seven

years. One limitation of both surveys is that the respondents at each wave are not necessarily the same, as no attempt was made to re-contact individual respondents from 2004. In the WERS survey, 989 workplaces were followed in 2004 and 2011 and in REPONSE 872 workplaces were followed in 2004 and 2011. In order to obtain information about employee perceptions of working conditions, we calculated the aggregated weighted means of the demographic and job characteristics for each establishment in the panel. Furthermore, there are some establishments where managers were interviewed but the employees' answers are missing. These establishments were therefore excluded from the panel reducing the final sample size for the WERS survey to 770 and for the REPONSE survey to 805.

From the WERS survey we were able to obtain the exit rate for the establishments in 2011. Managers were asked to report the number of employees they had on the payroll at the workplace in 2011 and also the number of employees who had left or resigned the workplace voluntarily in the previous 12 months. There is no information in the REPONSE survey on the number of entries and exits from employment. Consequently, we matched the REPONSE survey with the DMMO survey 2006 *(Déclaration Mensuelle de Mouvements de Main-d'Oeuvre),* which details gross establishment labour and job flows (entries, exits, job created and lost, etc.), and the EMMO survey (2006) *(Enquête sur les Mouvements de Main d'Oeuvre*), a quarterly survey of entries and exits from employment. The database is collected by the French Ministry of Labour. In the DMMO survey, each establishment with at least 50 employees makes a monthly declaration of employment at the beginning and end of each months and the total entries and exits during the month. The EMMO survey is a quarterly survey including establishments employing between 10 and 49 employees, excluding publicly-owned establishments and domestic services, and it provides information on the number of entries and exits from employment. We merged the DMMO-EMMO (2006) surveys with the REPONSE panel to obtain information on voluntary exits from employment. As not all establishments in the DMMO-EMMO (2006) database are present in the REPONSE panel, the sample size was reduced to 597 establishments.

The last dataset comes from a cross-sectional survey of 3000 French employees undertaken in December 2008 and January 2009, with a special interest in the way they perceive their wage (*SalSa*, *Les Salaires vus par les Salariés*). The survey was funded by the *Corpus* program of the French National Research Agency (ANR) and was run by the French statistical office (Insee). Interviews were conducted by telephone when possible and face to face otherwise.

In order to constitute the *SalSa* sample, Insee extracted a random sample of employees from the 2006 Panel DADS (*Déclarations Annuelles de Données Sociales*). The DADS is an administrative file devoted to the calculation of social security contributions. It contains the wages of every wage-earner working in the private sector, in public hospitals, and in local government departments. Social security contributions paid by national civil servants are collected through a different system, so the latter are not included in this database. In order to overcome the under-representation of the public sector, the survey designers decided to oversample employees of public hospitals and local government departments. As a result, 20 per cent of the initial sample was selected from these two groups. Similarly, 10 per cent of the sample was selected from the top decile of the private sector wage distribution. In order to limit survey costs, the sample was drawn from employees living in the following regions: Alsace, Auvergne, Centre, Languedoc-Roussillon, Lorraine, Midi-Pyrénées, Basse-Normandie, Pays de la Loire, Picardie, and Rhône-Alpes, as well as in the Essonne department of the Ile-de-France (Paris) region. The final sample is constituted of 3117 interviews.

We were therefore able to match responses to the cross-sectional survey with a limited selection of variables (due to privacy issues) from the Panel DADS. This selection mainly contains the employees' work career (wages, number of working hours, sector, social category, type of job) since 1976. This sample will be used in Chapter 3 to examine the evolution of wages between 2003 and 2008.

In the next section I will present the abstracts of the three chapters that make up the thesis. Chapter 1[8] is concerned with the evolution of job quality in the context of the crisis. Chapter 2[9] examines the variation in job quality in two different institutional regimes- France and Great Britain, with a particular emphasis on size of firm. Chapter 3[10] examines the strategies adopted by individual employees faced with poor working conditions and low pay.

[8] Chapter 1 was developed together with Thomas Amossé. The collaboration was based on the agreement that the chapter would be submitted to an academic journal in co-authorship.

[9] One part of Chapter 2 was developed together with Alex Bryson and Christine Erhel during the joint Leverhulme project that investigated employment relations practices, procedures and structures in Great Britain and France. The contribution of my thesis is the analysis of firm size and the detailed description of institutional differences between France and Great Britain.

[10] Chapter 3 was developed together with Olivier Godechot. The collaboration was based on the agreement that the chapter would be submitted to an academic journal in co-authorship.

The Plan and Summary of the thesis

Chapter 1: Job Quality and Workplace Adjustments during the Crisis: Evidence from Linked Employer-Employee data

Periods of economic crisis are typically examined as opportunities for firms to introduce workplace adjustment mechanisms in order to accelerate changes in employment and production relations (Green *et al.*, 2014; Westergard-Nielsen and Neamtu, 2012). However, it may be wondered whether the perception of the job quality of 'survivors' is similar in workplaces that were affected by the crisis and in those not so affected. Little is known about the link between the evolution of job quality and the economic situation in the workplace. Drawing on unique French cross-sectional linked employer-employee data (REPONSE 2005-2011), this chapter provides empirical evidence on the links between changes in business activity and job quality in two different contexts: one in a favourable economic situation in 2005 and the other one post-crisis in 2011. Furthermore, this chapter investigates how a change in business activity interacts with a change in employment and what the impact is on the job quality of French employees. The findings confirm that perceptions of work intensity, job insecurity, and job promotion prospects changed after the 'Great Recession' of 2008-2009. The log hourly pay is higher in 2011 than in 2005 by 2 per cent. Although in the post-crisis context employees perceive to have more promotion opportunities and lower job insecurity, the results show that, once both activity and employment decrease, employees perceive insecurity to be higher and promotion opportunities scarcer. Furthermore, the findings show that perceptions of job quality deteriorated in the industries most affected by the crisis.

Chapter 2: Job Quality in Two Different National Institutional Regimes

Drawing on theoretical frameworks from the varieties of capitalism and power resource approaches, job quality scholars examined whether macro-level features can explain country differences in perceived job quality. However, the relation between job quality and firm size has not received much attention in the institutional theory literature. Thus Chapter 2 uses rich French and British linked employer-employee data (REPONSE (2010-2011) and WERS (2010-2011)) to investigate the impact of firm size on job quality in two different national institutional regimes – France and Great Britain. The findings of this chapter confirm that national institutional regimes are sufficiently different and influential to produce cross-national variation in job quality in the two countries. Overall job quality appears to be higher

in large firms in dualist regimes than in small firms, whereas in market employment regimes job quality is lower in large firms than in small firms. Furthermore, the chapter shows that the wage residual can be viewed as a complementary part of job quality in both large and in small firms in France, whereas in Great Britain the relation is weak in large firms and not significant in small firms.

Chapter 3: Should We Clash or Should I go? The Impact of Low Wage and Bad Working Conditions on the Exit-Voice Trade-off

Although Hirschman's exit–voice theoretical model has been applied to labour markets, research up to now has not tested one of its most important features: the impact of job quality on exit–voice strategies. We adapt Hirschman's model of consumer behaviour to the labour market and argue that dissatisfaction with pay should favour quitting while dissatisfaction with working conditions should favour collective action. A rationale for this trade-off is based on information: first, information on the price of alternative options is much more accessible than information on quality; second, voice produces more information than exit and creates opportunities for specific improvements. We use three linked employer-employee datasets to test this: the British 2004 and 2011 WERS surveys, the French 2005 and 2011 REPONSE surveys matched with administrative data on wages and labour flows, and the French SalSa survey (2008-2009), a cross-sectional file matched with an administrative panel. Our results support the Hirschmanian hypothesis in both countries, at the individual as well as at the aggregate establishment level: a deterioration in our working conditions index increases the probability of participation in collective action, while an increase in log hourly wage decreases the probability of quitting.

The findings of the thesis reveal a number of general 'workplace effects' on job quality, but at the same time considerable differences between France and Great Britain. The results of the first chapter provide new evidence on the degree to which workplace characteristics are a factor in reducing or improving the job quality of employees who survived the recession. The results of Chapter 2 confirm that national institutional regimes are still sufficiently different and influential to produce cross-national variations in job quality in the two countries. The results of the third chapter confirm that the voice strategy, as defined by Hirschman, might lead to improvements in working conditions.

Chapter 1[11]

Job Quality and Workplace Adjustments during the Crisis: Evidence from linked employer-employee data

1. Introduction

Periods of economic crisis are typically examined as opportunities for firms to introduce workplace adjustment practices in order to accelerate changes in employment and production relations (Green *et al.*, 2014; Westergard-Nielsen and Neamtu, 2012). However, little is known about how workplace adjustment practices impact on the job quality of those employees who 'survive' the crisis. The perception of job quality may be related to the workplace characteristics as different firms react to the crisis in different ways. Some may reduce output; others may choose to cut base wages, reduce working hours, discontinue temporary employment contracts or lay off permanent employees (Kwapil, 2010). This suggests that employees' perception of job quality is related to the workplace situation, and that job quality may differ depending on whether or not the workplace in question has been affected by the crisis. Drawing on two unique French cross-sectional linked employer-employee datasets (REPONSE 2005 and 2011), this chapter provides empirical evidence on the links between changes in business activity at the workplace level and employee job quality in two different contexts: one in a favourable economic situation 2005 and the other one post-crisis in 2011. This chapter investigates how a deterioration in business activity at the workplace level interacts with a change in employment and what the impact is on the job quality of French employees.

In 2008-2009, European economies were affected by shocks of unprecedented severity. GDP declined in all countries and output losses were the largest since the recession of the early 1970s (Strauss-Kahn, 2009). The recession started in France from the second quarter of 2008 and bottomed out during the first quarter of 2009 (Bardaji, 2010; OECD, 2009). Overall, GDP dropped by 2.6 per cent during the recession, which was less than in neighboring countries (Trésor-Eco, 2011). French employers preferred to respond to the crisis by reducing employment rather than limiting remuneration (Askenazy *et al.* 2013). Firms also chose to retain permanent employees and to apply flexibility policies through

[11] Chapter 1 was developed together with Thomas Amossé. The collaboration was based on the agreement that the chapter would be submitted to an academic journal in co-authorship.

non-permanent contracts and alternative working hours arrangements (Perez and Thévenot, 2014; Bentolila *et al.*, 2010). These policies may suggest that firms gave priority to maintaining constant wage levels by compensating the non-pecuniary aspects of job quality and increasing the gaps between the 'survivors' who had permanent contracts and the others, who had lost their jobs.

The impact of workplace adjustment practices on the non-pecuniary aspects of job quality has to be examined in the context of the crisis, since a deterioration in the non-pecuniary aspects of job quality may lead to lower productivity in the firm, higher absenteeism and higher labour turnover (for example, Böckerman and Ilmakunnas, 2012; Zelenski *et al.*, 2008; Askenazy *et al.*, 2012). In the context of the crisis a number of scenarios can be drawn with regard to the evolution of the non-pecuniary aspects of job quality for 'survivors'. One might expect that the deterioration in business activity at the workplace would have led to a reduction in the labour force, which would have an impact on various components of job quality. For example, job cuts could have generated higher perception of job insecurity, particularly when accompanied by a decrease in business activity. However, job cuts can lead to a reorganization of work and 'survivors' may perceive new opportunities for promotion. The increase in business activity may also lead to higher perceptions of work intensity. Theoretical papers do not enable us to formulate clear hypotheses with regard to the evolution of employees' job quality. Furthermore, it is particularly interesting to be able to link what employees say with regard to their job quality to the dynamics of activity and employment in the workplace.

Thus, the current chapter contributes to the job quality literature in several ways. Firstly, it investigates the impact of workplace employment adjustment practices on job quality using rich linked employer-employee datasets REPONSE (2005 and 2011). Secondly, the chapter takes into account the multi-dimensional character of job quality and considers four dimensions of job quality: work intensity, job insecurity, job promotion and log hourly pay. There are many other dimensions of job quality but here the choice of job quality aspects is driven by the potential links with politico-economic changes that have occurred in workplaces since the crisis and by the constraints of the available representative survey evidence. The third contribution is to show that the deterioration in certain dimensions of job quality could be observed when both activity and employment decrease. Finally, this chapter also includes industry level analyses that examine the variation in job quality in the industries most affected by the crisis.

The findings of the current chapter confirm the importance of taking into account the workplace effect on job quality. Employees, who were in the workplaces, where both business activity and employment decreased, perceive higher job insecurity and lower promotion opportunities. Furthermore, whatever goes on at the workplace level, employees perceived higher work intensity, more promotion opportunities and lower job insecurity after the 'Great Recession' of 2008-2009. In 2011 log hourly wages appear to be 2 per cent higher than in 2005. Finally, the perception of employee job quality deteriorated in the industries most affected by the crisis.

The rest of the chapter is organized as follows. The second section describes labour market developments in France and discusses how the French labour market was affected by the economic crisis. The third section examines trends in job quality in the context of the crisis while the fourth section describes variables. The fifth section presents the empirical strategy and the sixth section analyses the results. The chapter ends with a conclusion on the scope and limitations of these results.

2. Labour market development in France during the 2008 economic crisis

In this section we will discuss labour market developments in France during the crisis, and policy interventions implemented during this period in response to the shock. This will help us clarify which workplace adjustment policies employers applied and what can be expected with regard to the changes in our four dimensions of job quality.

In France the unemployment rate increased by more than three percentage points between 2008 and 2012; the increase was more pronounced in the private sector (Bentolila *et al.*, 2010). In order to reduce the unemployment rate, the French government strongly encouraged fixed-term contracts as a means of increasing labour market flexibility (Bentolila *et al.*, 2010). The empirical evidence shows that employers applied non-permanent contracts, working hours arrangements and other mechanisms to non-permanent employees whereas they did not change the real wages or contracts of permanent employees (Perez and Thévenot, 2014). For example, based on the *French Labour Force Survey (2003-2010),* Marchand and Minni (2010) show that employees on temporary contracts, did not get the chance to renew their contracts after 2008. The trend of hiring on mostly short-term contracts went on and the proportion of permanent contracts decreased sharply. France has the lowest proportion of employees who make the transition from temporary to permanent contract in

the OECD countries (OECD, 2014). This suggests that short-term contracts can be less and less considered as stepping stones in France (Askenazy and Erhel, 2015).

Considering that it is difficult to fire permanent employees in France because of redundancy costs, many scholars argue that the main survivors of the economic crisis are permanent employees (Bentolila *et al.*, 2010). However, since 2008 employers have obtained the right to sever indefinite contracts based on mutual agreement because a new type of worker exit became possible as a result of the implementation of a new law known as '*rupture conventionnelle'* or termination of contract by mutual agreement. Before rescinding a contract, both parties negotiate a compensation package or, in the case of dismissals, the severance pay at least. As a result, one out of six layoffs or dismissals of permanent workers is based on a termination of contract by mutual agreement.

In 2007 the government also introduced the legislation known as the TEPA Act (*Travail, Emploi et Pouvoir d'Achat / Work, Employment and Purchasing Power*), which provided incentives for overtime hours. The TEPA introduced a tax break on overtime work and increased overtime premiums in firms with fewer than 20 employees. As a result of this reform, employees started to declare hours of work they had not previously reported, leading to an increase in the number of working hours reported. Nevertheless, the annual number of hours did not change in France between 2007-2009, and the distribution of average working hours remained stable in those sectors where the employment was usually high (construction, trade, transport and business services) (DARES, 2008; OECD, 2009). Therefore, many scholars argue that the adjustment was more directed to the labour force than to the increase in average hours in those sectors (Arpaia and Curci, 2010; Gautié, 2011).

Comparing the situation of industries before and after the crisis, major job losses were in the manufacturing (8 per cent), construction (3 per cent), and service and trade (3 per cent) sectors (Bardaji, 2010). Although the proportion of temporary agency work has been high in the manufacturing and construction sectors since the mid-1990s, the number of temporary workers decreased in these sectors after the 2008 economic crisis, which was more than half of the total employment decrease between the beginning of March 2008 and the end of June 2009 (Gautié, 2011). Furthermore, the impact of the economic shock was different according to firm size. The number of bankruptcies was higher among small and medium-size firms with 50 to 200 employees than in firms with more than 200 employees (Jeanneau, 2010).

In France young and older workers were also seriously affected by the crisis between the first quarter of 2008 and the second quarter of 2009. According to Lizé and Prokovas (2011),

France followed a course of partial and age-targeted deregulation aimed at the working conditions of new employees and young individuals. This policy created a dualistic and segmented workforce. Even though the unemployment rate of young workers stabilised, the number of unemployed individuals aged 50 years and over continued to increase. Gautié (2011) argues that the most difficult situation is for low skill workers aged 50 and over with long tenure in their previous jobs. These employees experience difficulty in finding a new job once they become unemployed. Since construction and manufacturing were sectors worst affected by the crisis, men were the main victims of the economic crisis (Chevalier *et al.*, 2008; Chevalier and Mansuy, 2009). As women are less concentrated in these sectors, their unemployment rate has not increased much.

The last recession in France was also associated with a change in the occupational structure of the working population (Askenazy and Erhel, 2015). There has been a shift in labour demand away from workers with low and intermediate education towards the most highly educated. Meanwhile, the demand for intermediate occupations has declined. This trend can also be found in EU-27 countries where there is an overall significant negative variation in the number of low-educated workers and a positive variation in the number of highly educated workers (Curtarelli *et al.*, 2014). This triggered a debate on labour 'hoarding'[12] in high-skill occupations during the recession (Askenazy *et al.*, forthcoming).

Furthermore, even though the French labour market is highly regulated in comparative terms, labour market scholars argue that one important consequence of the crisis is an increase in violations of labour law for temporary workers in low-skill/low-paid work (Gautié, 2011). A possible reason is that in these workplaces unions are usually absent or weak, which facilitates violations of labour law. Inequalities have appeared with regard to occupational categories as well. Blue-collar workers have become more vulnerable to unemployment than professionals (Simonnet *et al.*, 2013).

These observations suggest that although France is characterized by a high level of employment protection legislation and by greater union ability to oppose job cuts than in other European countries, the French system appears to provide more flexibility for firms to respond to demand shocks than might have been expected (Amossé *et al.* forthcoming). This is confirmed in the recent empirical work by Duhautois and Petit (2015), who show that levels of dismissal and redundancy for economic reasons are quite high in France, which suggests that legal constraints on employers are not as strict as is often thought. Therefore, if

12 Askenazy and Erhel (2015) discuss a labour 'hoarding' process using the REPONSE (2011) survey. They show that only 40 per cent of the establishments that reduced employment during 2008-2010 had reduced the number of managers and professionals.

firms have a certain degree of freedom to reduce number of employees for economic reasons then one might expect to see firstly, a greater perception of job insecurity among employees.

The empirical evidence also shows that some employers use the period of recession as an economic reason to fire 'unproductive workers' and invest in their employees' training in order to have only productive workers when the economy recovers (Brunello, 2009; Felstead *et al.*, 2011). Consequently, the remaining employees may perceive job cuts as opportunities for promotion. Reducing the number of employees may also lead to higher work intensity as the remaining employees have to put more effort into reorganizing the work that they used to do in a larger team. These different propositions highlight the fact that the shock in the macro-environment and firm's response to the shock will have an impact on employees' perception of job quality.

Nevertheless, mentioning that examining the detailed impact of the crisis on job quality is quite a complex task, as it is hard to test a direct causality between the crisis and job quality because of the difficulty of identifying the various factors which could have contributed to the deterioration in job quality (Gautié, 2011). Specific impacts could be related to an existing trend in long-term industrial relations such as the decline in trade union density, and work intensification, or to incoming new governments aiming to introduce labour market regulations with an impact on some dimensions of job quality (Curtarelli *et al.*, 2014). Nevertheless, labour market scholars argue that it is important to describe the major impacts on job quality in the context of the crisis in order to explore the links between the trends in job quality and institutional factors (Curtarelli *et al.*, 2014; Erhel *et al.*, 2012). In the next section, therefore, we will discuss what trends are found in job quality literature in the context of the crisis.

3. What are the trends found in job quality in the context of crisis?

In this section we will present the literature review on job quality in the context of the crisis and discuss the main results found in the literature.

Erhel *et al.* (2012) conducted an empirical investigation of the impact of the crisis on job quality in the EU-27 using the *European Working Conditions Survey* (2005-2010), the *Labour Force Survey* (2005-2010) and *EU-SILC* panel data (2007-2009). The authors discuss two scenarios with regard to the evolution of job quality. On the one hand, the high unemployment rate and declining trade union power exert downward pressure on job quality; on the other hand, compositional effects might have contributed to the

disappearance of low-productivity, flexible and marginal jobs that often include negative elements such as short-term contracts, short working hours, and low wages. As a result job quality increased. Their results show that, after Ireland, France experienced the largest deterioration in overall job quality in the EU-27. However, the authors argue that the deterioration in the average level of job quality in France cannot be explained by cyclical factors and draw attention to other explanations. The deterioration was also noticed in sub-dimensions of job quality with regard to job security and working conditions, skills and career development prospects and working time and work-life balance. Erhel *et al.* (2012) attribute the negative perceptions of job promotion to the crisis, whereas the deterioration in the relationship between working time and work-life balance is attributed to the TEPA law. The existing literature attributes the increase in working hours in 2011 to the TEPA law (Askenazy, 2013; Gautié, 2011). The report based on the *French Working Conditions Survey* (DARES, 2014) shows that there has been no increase in the number of working hours among occupational groups.

Furthermore, Erhel *et al.* (2012) explain work intensification as the results of a structural trend and the weakening of collective representation (Askenazy *et al.*, 2006). The reason is that the intensification of work in France is often related to the deunionisation process that started in the 1980s (Askenazy, 2005; Askenazy *et al.*, 2006). France has the lowest rate of private-sector union membership (5 per cent) among OECD countries (Askenazy, 2013) but union representation is quite high in most French industries (Pak and Pignoni, 2008). Askenazy (2004) argues that the weakening of collective movements has led employees to believe they are powerless to fight bad working conditions and a high threat of unemployment. The absence of collective movements and the fear of staying unemployed have increased the perception of work intensity since the 1980s. Thus it is difficult to relate perceptions of work intensification in France directly to the crisis.

Nevertheless, the expectation of higher work intensity in the post-crisis context is supported by many surveys (Gallie and Zhou, 2013; Green *et al.*, 2013; Alpha report, 2009; DARES, 2014; Eurofound, 2015). Gallie and Zhou (2013) argue that there was a general tendency for work intensity to increase between 2004 and 2010 and that this might be related to the experience of financial difficulty or staffing reductions. Drawing on the *European Social Survey* (2004; 2010), Gallie and Zhou (2013) show that work pressure is high when the level of financial difficulty is also high. The pattern is similar with regard to workforce numbers, *ceteris paribus*. Drawing on the *European Working Conditions Survey* (1995-2010), Green *et al.* (2013) show that average work intensity was 2.5 percentage points higher in 2010 than in

2005. Contrary to these results, however, Curtarelli *et al.* (2014) expect work intensity to be lower after the crisis as firms either decreased business activities or reduced working time.

The report based on the *French Working Conditions Survey* (DARES, 2014) shows that the proportion of employees who had to '*hurry up*' during their jobs has decreased from 48 per cent in 2005 to 46 per cent in 2011. However, overall work intensification can be observed among employees in the wholesale and retail and service sectors. This is also confirmed by the Alpha report (2009), in which it is stated that the crisis has accelerated the introduction of new work organizations in order to cut costs and that this has had an impact on work intensification in the wholesale and retail sectors. According to the *French Working Conditions Survey* (DARES, 2014), intensification appears to be particularly high among managers and professionals.

The *European Working Conditions Survey* (2008-2012) indicates that there was widespread work restructuring in the Member States, which explains the increase in job insecurity across Europe (Eurofound, 2012b; Eurofound, 2014). Although the unemployment rate has risen in France as well, changes in job insecurity are not particularly marked. One reason could be related to firms' policy of retaining permanent workers (Perez and Thévenot, 2014). Employment protection plays a central role in France (Blanchard and Tirole, 2003). Nevertheless, unions usually focus on the interests of 'core' workers who have permanent contracts and compromise on the regulation of temporary workers (Rueda, 2007; Davidsson and Emmenegger, 2013; Gautié, 2011). For example, Gautié (2011) has shown that workplace-level collective agreements have sought to guarantee job security for "core" employees in France. It might be argued, therefore, that the economic crisis did not affect permanent employees, who survived in their jobs, and that the victims were in fact the employees of the temporary workers.

The existing empirical literature suggests that we should not expect wages to have changed between 2005 and 2011. The empirical evidence shows that firms preferred to implement labour force adjustment measures rather than wage adjustment measures (Askenazy *et al.*, 2013). Askenazy *et al.* (2013) examine wage trends during the crisis using the Wage Dynamics Network (WDN) and observe that in France nearly half of firms opted to cut jobs, while only 10 per cent chose to reduce wages. According to French law, employers cannot reduce the wage elements of an employee's contract without his or her approval. Furthermore, 98 per cent of workers in the private sector are covered by a collective agreement which fixes a minimum wage level for every skill level (Combault, 2006). However, legal restrictions are not the only reasons why employers do not apply wage

adjustment. French firms do not want to reduce nominal wages as wage dissatisfaction is very strong in France, and it stands as an obstacle to implementing a wage moderation policy (Askenazy *et al.*, 2013). Consequently, if there is a slowdown in the rate of wage growth, downward wage adjustment remains relatively uncommon.

Drawing on the *the British Skills and Employment Surveys* (2001; 2006; 2012), Green *et al.* (2014) argue that economic downturns reduce the well-being of employees and that those employees who survive the initial shock face a deterioration in their working conditions. However, the existing literature is mainly based on the household surveys (Erhel *et al.*, 2012; Gallie, 2013), which provide only limited information on workplace characteristics (with the exception of van Wanrooy *et al.*, 2013 for the British case). This is problematic, as individual level household surveys cannot explain to what extent being a 'loser' or a 'winner' depends on the workplace situation. Depending on the workplace employees are in, different scenarios can be postulated with regard to job quality. For example, if an employee is in a workplace that sees a decrease in the volume of activity, employees may perceive lower work intensity. On the other hand, employee perception of work intensity can still be higher as firms may put pressure on employees to be productive and produce competitive products. Furthermore, if a firm reduces employment, the perception of work intensity may be higher as employees have to complete their tasks with smaller number of co-workers. This suggests that the perceptions of work intensity depend on the workplace situation. Similarly, if a firm cuts jobs, the perception of job insecurity might be expected to be lower among those employees who 'survived'. At the same time the 'survivors' may continue to perceive job insecurity, as high, since they may still regard themselves to be at risk of being affected by the workplace adjustment practices given the uncertainty in the workplace environment. Expectations with regard to the perception of job promotion opportunities differ similarly as they too depend on the workplace situation.

These expectations highlight the fact that workplace adjustment practices may suggest different scenarios with regard to the evolution of job quality, and that they are strongly related to the workplace situation. That is why, in this chapter, we will use linked employer – employee data to investigate the links between job quality and the volume of activity and employment. We will contribute to this literature by extending the analyses of the link between job quality and the crisis to a new dimension in which we examine the impact of the structural variables on job quality is investigated.

4. Measurement of variables

Dependent variable

In the current chapter we examine four dimensions of job quality: *work intensity, job insecurity, job promotion opportunities* and *pay*. Consequently, we have four dependent variables. The detailed measurement of the dependent variables is presented in the appendices (A1, A2, A3).

Work intensity may be defined as the relation between the quantity of work, the quality of work and the available time to accomplish the work (Trägner, 2006). Work intensity can be measured by asking: How much do the workers have to do? What is the desired quality of the result? And how fast do they have to work? This suggests that work intensity is a multi-dimensional concept including three components: the quantity of work, quality of work and time (Trägner, 2006). However, Hurtienne *et al.* (2014) argue that the same relationship between the three components can differ on a subjective level when judged by people with differing work experience, motivations and interests and within differing company cultures. Therefore, the perceived mismatch depends on the situation, the individual abilities, the working conditions and the workplace culture.

In the REPONSE survey, the question employees were asked in order to measure *work intensity* was whether they have to hurry up in the course of their work. The possible responses ranged from 1 to 4, where 1 was identified as 'always' and 4 was identified as 'never'. This subjective definition of work intensity involves a perceived mismatch between the amount of work to be done and the time available to do it. Appendix 1 shows that in 2011, there was an increase of 4 percentage points in the number of employees reporting that they *always* have to work under time pressure. There appear to be no differences in the proportion of employees who report having a low intensity job. To be able to measure high work intensity, we created a dichotomous variable where 1 corresponds to employees who have a 'highly intense job' and 0 corresponds to the rest.

In the REPONSE survey, subjective insecurity rather than objective insecurity is measured. This is a topic that has been the focus of many studies. Chung and Mau (2014) argue that the state of objective security is closely related to what people feel and experience, and that, therefore, insecurity does not exist as an objective state. Furthermore, the authors argue that examining subjective job insecurity is important from a policy perspective, as high levels of subjective insecurity are associated with low levels of well-being not only for individuals but also for the companies for which they work. In order to measure subjective job insecurity, some authors have shown that workers' perception of future unemployment is

a strong predictor for unemployment occurring in the subsequent year (Green, 2009; Green *et al.*, 2001). This is explained by the fact that due to the contextual knowledge employees have about their situations, individuals are better able to make judgments about future unemployment than predictions based on objective measures related to skills, sector or economic cycles (Campbell *et al.*, 2007; Stephens, 2004).

In the REPONSE survey, *job security* was measured by asking employees to evaluate the likelihood of job loss in the next 12 months. Responses ranged from 1 to 4, where 1 was identified as a 'very high' likelihood of job loss and 4 was identified as 'very low'. Appendix 2 shows that the proportion of employees who reported the likelihood of job loss in the next 12 months to be *very high* or *high* was almost equal in both years. However, in 2005, the number of employees reporting they were likely to lose their jobs in the next 12 months was 4 percentage points higher. The proportion of *don't knows* and *non-responses* is high in both years (19 per cent in 2005 and 24 per cent in 2011). The higher proportion of *don't knows* and *non-responses* in 2011 could be related to higher uncertainty in the macro environment. To be able to measure job insecurity, we followed Bryson *et al.* (forthcoming) strategy of creating a dichotomous variable in which the value of 1 equated to a high or very high likelihood of job loss and the value 0 to a very low or very low likelihood of job loss including missing values. Job insecurity appears to be 1 percentage point lower in 2011 than in 2005.

As for job insecurity, workers' perception of *future promotion opportunities* were measured by asking them to report the likelihood of having a job promotion in the next 12 months. As in the case of job insecurity, employees should have some knowledge about their situation, and they are better able to make judgments about future promotion opportunities. Appendix 3 shows that employee perception of job promotion was similar in both years. However, the proportion of *don't knows* and *non-responses* was also high for job promotion, and it appears to be higher in 2011 than in 2005. As for job insecurity, a high non-response could be related to higher uncertainty in the macro environment. To be able to measure job promotion opportunities, we followed a similar strategy to that adopted for job security and created a dichotomous variable for job promotion, where 1 corresponds to a high or very high likelihood of job promotion and 0 to the rest including the missing values.

The 2005 and 2011 employee surveys (REPONSE) are matched with the administrative data (DADS), and provide net wages based on the administrative data. In the 2011 employee survey, the data on annual wages was taken from the administrative data DADS; however, in the 2005 employee survey, the only wage data available was for hourly pay. Hourly wages in 2011 were calculated by dividing the annual net earnings by the corresponding number of

hours. Hourly pay in 2011 appears to be 0.17 points higher than in 2005 but the difference is non-significant.

Table 1. The evolution of four dimensions of job quality in France.

	2005	*2011*	Significance
High work intensity	27%	31%	***
High job insecurity	13%	12%	NS
Job promotion	12%	12%	NS
Hourly wages	14.03 € (in 2003)	14.20 € (in 2009)	NS
Observations	7,261	10,009	

Notes: Weighted frequencies in the cells. In 2005, 27 per cent of employees reported higher levels of work intensity. The average hourly pay in 2003 was 14.03€. Pay measures are uprated to 2011 prices using the Eurostat HCIP. The hourly pay includes bonuses.

Base: All workplaces with 21 and more employees, who were in the workplace on the 31st of December 2003 for REPONSE (2005) survey, and for REPONSE (2011) survey employees were in the workplace on the 31st of December 2009.

Source: DARES, REPONSE (2005; 2011).

Independent variables

The second important set of variables used in the current study is related to the economic situation of the workplace. We use two variables from the management questionnaire to capture the economic situation of the workplace before and after the crisis: the change in business activity and the change in total employment.

First, employers were asked to report if the volume of business had increased, remained stable or decreased in the previous three years. Responses range from 1 to 5, where 1 was identified as 'increased strongly' and 5 as 'decreased significantly'. Table 2 shows that in 2011, the number of employers reporting that the workplace had experienced an increase in business activity fell by 14 percentage points between 2008 and 2011. In 2011, there was an increase of 3 percentage points in the number of employers reporting stability in business activity and of 11 percentage points in those reporting a decrease in business activity. Overall, in 2011 fewer employers reported an increase in business activity and more employers reported a decrease in business activity between 2008 and 2011. These results suggest that after the 2008 crisis, there was a slowdown in the expansion of business activity. Business activity appears to have been more flourishing in 2005, as 56 per cent of employers reported an increase in activity, with 14 per cent reporting a decrease. This makes it all the more important to examine the variation in job quality in two different contexts.

Table 2. Change in business activity at the workplaces according to managers of the workplaces

	2005	*2011*
Strongly increased	12	9
Increased	44	33
Remained stable	29	32
Decreased	12	21
Strongly decreased	2	4
Does not know	1	1
Number of firms	2,919	3,321

Notes: Weighted frequencies in the cells. In 2005, 12 per cent of employers reported that business activity had increased strongly between 2002 and 2005. In 2011, 9 per cent of employers reported that business activity increased strongly in 2011.

Base: All workplaces with 21 and more employees in private sector workplaces

Source: DARES, REPONSE (2005; 2011)

Using the REPONSE survey, we are able to examine the impact of employment reduction on job quality. Employers were asked to report if in the previous three years, the total number of employees had risen, remained stable or fallen. Table 3 shows that between 2008 and 2011 4 per cent fewer employers reported an increase in total employment and 4 points more reported a decrease in total employment. This may suggest that after the 2008 economic crisis, employers adjusted total employment at the workplaces. This highlights the importance of examining the variation in job quality before and after the crisis in two different contexts.

Table 3. Change in total employment at the workplaces according to managers of the workplaces

	2005	*2011*
Has risen	44	40
Remained stable	40	40
Has fallen	16	20
Number of firms	2,924	3,321

Notes: Weighted frequencies in the cells. 44 per cent of employers reported that total employment had risen in 2005, and 40 per cent of employers reported that total employment had risen in 2011. The variable does not include agency workers.

Base: All workplaces with 21 and more employees in private sector workplaces.

Source: DARES, REPONSE (2005; 2011

In order to understand the relation between business activity and total employment, we performed a cross-table. The cross-table (A4 in appendices) shows that there is a strong relation between business activity and total employment. An increase in business activity is related to an increase in employment, stability in business activity is related to employment stability and, finally, a decrease in activity is related a decrease in total employment. Comparison of the results for 2005 and 2011 shows that the decrease in total employment was lower in 2011 in those establishments in which business activity decreased than in 2005. This may suggest that in 2011 firms did not adjust employment and instead chose to wait for the recovery.

Control variables

Job quality could also be explained by human capital and job-specific variables, as can be seen from Tables 4 and 5. Table 4 presents workplace characteristics such as single-digit industry classification (twelve categories), workplace size (five categories), workplace age (five categories), and workforce composition. In the workforce composition we consider the percentage share of female workers, the percentage share of employees aged under 25, the percentage share of employees aged 50 and over and the percentage share of employees aged between 26 and 49. Furthermore, we consider the share of managerial employees, the share of professionals, the share of technicians, the share of clerks and the share of blue-collar workers. In the workforce composition we also consider the proportion of workers on permanent contracts, fixed-term contracts and temporary agency contracts.

A greater portion of workers are employed in the manufacturing, wholesale and retail and other business services sectors. There were fewer industries in manufacturing and in business services in 2011 than in 2005. There are no major changes with regard to workplace size and workplace age between 2005 and 2011; however, there are some changes with regard to workforce composition. Comparing the share of employees on fixed-term contracts before and after the crisis, the frequency table shows that the share of workers on fixed term contracts was higher in 2011. Comparison of the share of female workers in 2005 and in 2011, the share of female workers is 3.3 points higher in 2011 than in 2005.

Table 4 Description of workplace characteristics in 2005 and 2011 . Weighted frequencies in cells in percentages based on the workplace level data.

	2005	*2011*
Industry: Manufacturing	33	28
Energy	2	1
Construction	6	6
Wholesale and retail	16	16
Hotels and restaurants	3	2
Transport and communication	8	10
Financial services	5	6
Other business services	18	14
Education	0,3	0,5
Health	7	11
Other community services	3	3
Establishment size		
20-49	24	25
50-99	18	19
100-249	24	22
250-499	14	14
500 and more	20	20
Workplace age		
Less than 5 years	3	3
5 to 9 years	7	8
10 to 19 years	21	18
20 to 49 years	42	44
50 years and more	26	27
Workforce composition		
Age: Share of employees under 25	9.7	9.5
Share of employees from 25 to 50	66.2	67.4
Share of employees over 50	23.1	23.1
Occupation: Share of managerial employees	0.53	0.51
Share of professionals	15.8	16,3
Share of technicians	23.5	19.6
Share of clerks	23.1	28.7
Share of blue-collar workers	37	34.8
Contract: Share of fixed-term workers (mean)	6.4	7.9
Share of agency workers (mean)	4.2	4.2
Share of female workers (mean)	38.2	42.5

Notes: Figures are based on 2,924 workplaces in 2005, and 3,947 workplaces in 2011. In 2005 33 per cent of workplaces were in manufacturing industry; in 2011 28 per cent of workplaces were in the manufacturing industry.

Base: All workplaces with 21 and more employees in private sector workplaces.

Source: DARES, REPONSE (2005; 2011)

At the individual level we examine if there are inequalities in the four dimensions of job quality in different demographic and socio-economic groups. Thus, we control for gender, age (three categories), single-digit occupation (ten categories) and tenure (four categories). Table 5 shows that the proportion of male employees was lower in 2011 than in 2005. The proportion of young workers was lower in 2011 than in 2005. The average tenure was higher in 2011 than in 2005 which can be explained by several reasons. First, the 2011 employee survey contains both employees with at least 15 months of tenure and employees with longer tenure. In interpreting the results, we should be cautious that we are dealing with a population of employees who have at least 15 months of tenure. Second explanation may be related to the workplace adjustment practices. For example, firms gave priority to keep tenured employees and chose to retain them. Therefore, employees who participated in the survey had survived the shock and their job tenure was much longer.

Table 5. Descriptive table of individual job characteristics based on the employee survey.

	2005	*2011*
Gender		
Male	61	58
Female	39	41
Age		
Less than 29 years old	19	17
30-39	32	28
40-49	28	30
50 and more	20	24
Occupation		
Managers	18	19
Technicians	24	22
Clerks	22	26
Blue-collar workers	34	33
Tenure (mean)	3,91	4,09
Less than 5 years	36	30
5 to 10 years	15	22
10 years and more	48	47
Number of employees	7,923	10,009

Notes: Weighted frequencies in the cells. Figures are based on 7,923 employees in 2005, and 10,009 employees in 2011. In 2005 61 per cent of employees were male workers, and in 2011 58 per cent of employees were male workers.

Base: All workplaces with 21 and more employees in private sector workplaces, who were in the workplaces on the 31st of December in 2003 for REPONSE (2005) survey, and for REPONSE (2011) survey employees were in the workplace since the 31st of December in 2009.

Source: DARES, REPONSE (2005; 2011)

After examining individual and workplace characteristics in 2005 and in 2011, it is worth mentioning that the differences between the two years are small. This may suggest that we have two comparable surveys.

5. Empirical strategy

The REPONSE (2005-2011) survey can be used to compare the workplaces that between 2005 and 2011 that had 21 and more employees with at least 15 months' tenure. However, we should be aware of the limitations of the data. Firstly, as the employees surveyed had 15 months' tenure, we should be aware that most of these employees were employed on permanent contracts. This suggests that we are mainly examining the job quality of permanent employees. Secondly, we should be aware of selection bias, as we are surveying random sample of French workplaces in 2011; a number of firms had closed down by then, unable to survive the initial shock, while other firms were set up after the crisis broke.

The empirical analyses of the current chapter will be based on the pooled cross-sectional data (2005-2011) in order to test the links between the business activity, total employment and the year on four dimensions of job quality. All the multivariate estimates of non-pecuniary job quality are based on linear probability models (LPM) with the classical OLS techniques and corrected for heteroscedasticity.

Two limitations of this technique should be discussed. First, the values of $\beta(X_{ij})$ and $\gamma_n(Z_{ij})$ cannot be interpreted as a predicted probability. Nevertheless, the linear probability model gives results close to the logit or probit model, which transforms the probability in order to avoid the problem (Green, 1992). Bryson and Gomez (2005) confirm that the linear probability models produce the same results as logit models, and we chose to use the linear probability model because logistic regressions can be problematic when we compare coefficients from one regression to another (Ai and Norton, 2003; Mood, 2010).

The second limitation is that the model is inclined to heteroskedasticity (Kennedy, 1998: 243). We follow Bryson and Gomez (2005) and employ the Huber-White robust variance estimator, which produces consistent standard errors in the presence of heteroskedasticity.

The analyses consist of several parts. First, we test the main effects of business activity, total employment and the year on four dimensions of job quality. As we have four dependent variables, we estimate four different models (1).

$$Y_{ij} = \beta_0 + \psi 1 Z_{1j} + \psi_2 Z_{2j} + \psi_4 \theta + \psi_v Z_n + Xit\beta + e_i \quad (1)$$

Where

Y_{ij} is a 0-1 dummy variable denoting whether individual *i* in workplace *j* has high work intensity, job insecurity, job promotion opportunities and higher pay. When the dependent variable is hourly wages, we take into account the log of hourly wages.

Z_{1j} = dummy for decrease in business activity,

Z_{2j} = dummy for decrease in total employment,

Xit is a set of individual and workplace characteristics including individual age, gender, occupation, industry, workplace size, workforce composition.

θ = year dummy, taking value 1 if 2011, 0 if 2005.

Based on the equation (1) we also performed the analyses on three industry subsamples. According to the literature, manufacturing and construction were the sectors most affected by the crisis. Therefore, in the first subsample we introduced manufacturing, construction and energy. The second subsample contains the service-sector industries and the final subsample includes the wholesale and retail trades.

The second part of the analysis introduces an interaction between the decrease in business activity and the year in order to examine whether the impact of the decrease in business on job quality depends on the year. (2).

$$Y_{ij} = \beta_0 + \psi_1 Z_{1j} \times \theta + \psi_2 Z_{2j} + \psi_3 \theta + \psi_n Z_{nj} + Xit\beta + e_i \quad (2)$$

The third part of the analysis introduces the interaction between structural variables. In particular, we examine the interaction between the decrease in business activity and the decrease in employment on job quality (3).

$$Y_{ij} = \beta_0 + \psi 1 Z_{1j} \times Z_{2j} + \psi_2 \times \theta + Xit\beta + e_i \quad (3)$$

6. Results

The results are organized as follows. Firstly, we present the results based on pooled regressions. Secondly, we examine the variation in job quality in different industries based on the subsamples of the pooled sample. In this section we use the pooled sample (2005-2011) and introduce interaction variables step by step. Table 6 summarizes the main results, and A5 presents the full regressions.

Work intensity

All things being equal, employees perceive work intensity to be 4 per cent greater in 2011 than in 2005. This confirms that in the post-crisis context there has been a change in perceived work intensity (model 1.1, Table 6). The change in the perception of work intensity highlights the importance of examining the impact of structural variables. Higher work intensity in 2011 is related to the decrease in the number of employees which is confirmed in model 1.1.

Model 2.1 shows that employees who were in the 2011 workplaces where activity increased or remained stable, perceive work intensity to be 3 per cent greater than those employees who were in the 2005 workplaces where activity increased or remained stable. Similarly, employees who were in the 2011 workplaces where activity increased perceive work intensity to be 5 per cent greater than those employees who were in the 2005 workplaces where activity increased or remained stable. Given that work intensity was high in 2011 both when activity increased and when it decreased, it would appear that the perception of work intensity in 2011 was independent of the level of activity. Higher work intensity in the post-crisis context could be related to a structural trend and the weakening of collective representation in France, as discussed by Erhel *et al.* (2012); Askenazy *et al.* (2006).

Finally, we examined the impact of the interaction between the activity and employment on work intensity. Being in a workplace where both activity and employment decreased leads to a level of work intensity that is 3 points higher, than being in a workplace where both activity and employment increased or remained stable. This result suggests that when both activity and employment decrease, the perception of work intensity is higher which is in line with the finding in the existing literature (Gallie and Zhou, 2013) that work pressure is high when the level of financial difficulty is high. We turn now to the results for perceptions of job insecurity.

Job insecurity

In 2011 employee perception of job insecurity was 2 per cent lower than in 2005. However, we must be cautious with regard to selection bias (Model 1.2). The remaining employees perceive lower levels of job insecurity because most of them survived the initial shock. However, employees who were in the workplaces where activity decreased perceive job insecurity 9 per cent higher, than those employees who were in the workplaces where activity remained stable or increased. Similarly, employees, who were in the workplaces, where employment decreased, perceive job insecurity to be 7 per cent higher than those employees who were in the workplaces where employment increased or remained stable. These results underline the importance of examining the main effects of the structural variables on perceptions of job insecurity. Furthermore, we examine whether the effect of the change in activity on perceptions of job insecurity is similar in 2011 or in 2005.

Employees who were in the 2011 workplaces where activity increased or remained stable perceived job insecurity to be 1 per cent less than those employees who were in the 2005 workplaces where activity increased or remained stable. However, being in the 2011 workplaces where activity decreased leads to higher perceptions of job insecurity by 6 per cent compared with being in the 2005 workplaces, where activity increased or remained stable.

Contrary to work intensity, the perception of job insecurity is dependent on the activity. The results show that if activity was high in 2011, the perception of job insecurity was low, whereas if activity was low in 2011, the perception of job insecurity was high. Furthermore, job insecurity appeared to be high when the number of employees decreased by 7 per cent.

Finally, we examined the impact of the interaction of structural variables on job insecurity. The results show that employees who were in the workplaces where the volume of activity increased but employment decreased perceived job insecurity to be 6 percentage points greater than those in the workplaces where both activity and employment increased. Furthermore, if the volume of activity decreased but employment increased, employee perception of job insecurity remained significantly high. Finally, if employees were in the workplaces where both the volume of activity and employment decreased, their perception of job insecurity was 16 percentage points higher than for those employees who were in the workplaces where both activity and employment increased. These results suggest that once either activity or employment declines, the perception of job insecurity becomes significantly high. These results confirm the importance of taking into account not only the main effects

but also the interaction effects of structural variables on perceptions of job insecurity. We will go on to discuss the results in relation to job promotion.

Job promotion

In 2011 employee perception of job promotion was 44 per cent higher than in 2005. The coefficient is very high, which suggests that the remaining employees perceived they had greater chances of job promotion in the post-crisis context than in the pre-crisis context (Model 1.3). As for the other dimensions of job quality, here too we will examine the impact of structural variables on perceptions of job promotion prospects. The results show that employees who were in the workplaces where the volume of activity decreased perceived their chances of promotion were 16 per cent lower than those employees who were in the workplaces, where activity increased or remained stable. Next, we will discuss whether the effect of activity on job promotion was different in 2011 to what it was in 2005 (Model 2.3).

As with work intensity, perceptions of job promotion in 2011 did not depend on the level of activity. In 2011, if the volume of activity increased, perceptions of job promotion were 42 per cent higher; in the same year if the volume of activity decreased, perceptions of job promotion were still 30 per cent higher. These results could be related to the finding in the existing literature that survivors of the shock believed that firms would invest in them as productive workers and that they might therefore gain job promotion as soon as the economy of a firm recovered. This expectation may be confirmed by examining the results for 2005. Employees who were in the 2005 workplaces where the volume of activity decreased perceived 21 per cent less chances of job promotion than those employees who were in the workplaces where business activity increased or remained stable (Model 2.3).

Finally, we examined the impact of the interaction between activity and employment on perceptions of job promotion. The results show that employees who were in the workplaces where business activity decreased and employment increased or remained stable perceived their chances of promotion to be 18 per cent less than those employees who were in the workplaces where both activity and employment increased or remained stable. The coefficient is also significant and negative when both activity and employment decreased (Model 3.3). These results suggest that the negative effect of the decrease in the volume of activity on job promotion does not depend on the change in employment. In both cases, employees perceive their chances of promotion to be lower. These findings highlight the importance of considering the interaction of structural variables on job promotion

opportunities, as considering temporal effects only may reflect subjective perception of job promotion opportunities.

Log hourly pay

The log hourly pay appears to be higher in 2011 than in 2005 by 2 per cent (Models 1.4; 3.4). The structural variables do not appear to have an impact on wages. As for the other dimensions of job quality, here too we will discuss whether the effect of structural variables on hourly pay was different in 2011 to what it was in 2005 (Model 2.4). Employees who were in the 2011 workplaces where the volume of activity increased or remained stable had 1 per cent higher hourly pay than those employees who were in the 2005 workplaces where the volume of activity increased or remained stable. Furthermore, employees who were in the 2011 workplaces where the volume of activity decreased had 2 per cent higher pay than those employees who were in the 2005 workplaces where the volume of activity increased or remained stable. These results suggest that higher hourly pay in 2011 was independent of the level of activity.

Finally, we examined the impact of the interaction between activity and employment on the log hourly pay (Model 3.4). The results show that the interaction between activity and employment does not appear to have an impact on wages. This result is in line with the empirical evidence that French firms preferred to apply employment adjustment policies rather than wage adjustment policies in response to the crisis (Askenazy *et al.,* 2013) and we did not expect to find a decreasing trend in wages.

The results based on the pooled regression analyses confirm that, in the post-crisis context, employees perceived work intensity to be higher, job insecurity to be lower and promotion opportunities to be greater. However, once we examine the impact of structural variables on perceptions of job quality, we find higher job insecurity and lower job promotion opportunities. These results suggest that in the post-crisis context, workplaces applied employment adjustment policies that influenced perceptions of job quality.

Furthermore, we examined the perceptions of employee job quality by industry, as some industries, such as manufacturing, construction and services were more affected by the crisis than others (Bardaji, 2010). In the next section, we discuss the results based on the industry-level analyses.

Table 6. The impact of employment adjustment on four dimensions of job quality

Dependent variables →	**Work intensity**	**Job insecurity**	**Job promotion**	**Log hourly wages**
Model 1	**Model 1.1**	**Model 1.2**	**Model 1.3**	**Model 1.4**
Year 2011	0.04***	-0.02***	0.44***	0.02***
(Ref: 2005)	(0.01)	(0.01)	(0.05)	(0.01)
Decrease in activity	0.00	0.09***	-0.16**	-0.01
(R*ef: increase or stability*)	(0.01)	(0.01)	(0.07)	(0.01)
Decrease in employment	0.03***	0.07***	-0.04	-0.01
(Ref: increase or stability)	(0.01)	(0.01)	(0.07)	(0.01)
R2	0.03	0.04	0.03	0.64
Observations	17932	17932	17932	17878
Model 2	**Model 2.1**	**Model 2.2**	**Model 2.3**	**Model 2.4**
Year 2005*activity decreased	-0.01	0.11***	-0.21**	-0.02
(Ref: 2005 increase or stability in activity)*	(0.02)	(0.02)	(0.10)	(0.01)
Year 2011*increase or stability	0.03***	-0.01*	0.42***	0.01**
(Ref: 2005 increase or stability)*	(0.01)	(0.01)	(0.06)	(0.01)
Year 2011*decrease in activity	0.05***	0.06***	0.30***	0.02**
(Ref: 2005 increase or stability)*	(0.01)	(0.01)	(0.09)	(0.01)
Decrease in employment	0.03***	0.07***	-0.04	-0.00
(Ref: increase or stability)	(0.01)	(0.01)	(0.07)	(0.01)
R2	0.03	0.04	0.03	0.64
Observations	17932	17932	17932	17878
Model 3	**Model 3.1**	**Model 3.2**	**Model 3.3**	**Model 3.4**
Year 2011	0.04***	-0.02***	0.44***	0.02***
(*Ref: 2005*)	(0.01)	(0.01)	(0.05)	(0.01)
Activity* Employment (*Ref: increase in activity*increase in employment)*				
Increase or stability in activity*decrease in employment	0.04	0.06***	-0.06	-0.01
	(0.02)	(0.01)	(0.08)	(0.01)
Decrease in activity * increase or stability in employment	0.01	0.08***	-0.18*	-0.01
	(0.01)	(0.01)	(0.09)	(0.01)
Decrease in activity * decrease in employment	0.03**	0.16***	-0.19*	-0.01
	(0.01)	(0.01)	(0.08)	(0.01)
R2	0.03	0.04	0.03	0.64
Observations	17932	17932	17932	17878

Notes : Weighted OLS regressions controlling for individual and workplace job characteristics

In Model 1 we examine the main effects of structural and temporal variables on four dimensions of job quality. In Model 2 we introduce the interaction between the year variable and business activity. In model 3 we introduce the interaction between employment and activity on four dimensions of job quality.

Key to statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months' tenure in private sector workplaces.

Industry level analyses

We performed industry-level analyses based on the three sub-samples. In the first subsample we included manufacturing, energy and construction, in the second we included wholesale and retail and in the last subsample service industries such as hotels and restaurants, transport and communication, financial services, other business services, education, health care and other community services. Appendix 6 presents full regressions. We discuss the variation in each dimension of job quality in the three subsamples.

Work intensity appears to be higher in the three subsamples in 2011 than in 2005. The decrease in business activity does not have a significant impact on work intensity in the three subsamples whereas the decrease in total number of employees led to higher perception of work intensity in the service sectors.

Although the manufacturing and construction sectors were strongly affected by the crisis, in the energy sector the perception of job insecurity was lower in 2011 than in 2005. This finding may suggest that at the time of the survey, employees might have perceived the risk of losing their jobs to be lower. Nevertheless, structural variables confirm that once activity decreased, employees perceived job insecurity to be 11 per cent higher than those employees who were in the same sectors but in the workplaces where activity increased or remained stable. Furthermore, once employment decreased, employees' perception of job insecurity in these sectors was 7 per cent.

The perception of job insecurity has not changed in the post-crisis context either in the wholesale and retail sector or in the service sectors. However, both decreases in the volume of activity and decreases in employment led to higher perceptions of job insecurity. In the three subsamples, perceptions of job insecurity appear to be higher in the workplaces where either employment or the volume of activity decreased than in those workplaces where either employment or the volume of activity increased or remained stable.

Perceptions of promotion opportunities appear to have been higher in the wholesale and retail industry in 2011 than in 2005. Neither in the service sector nor in the manufacturing, construction and energy sectors did promotion opportunities change between 2011 and 2005. However, a decrease in the volume of activity has a negative and significant impact on promotion opportunities in all the industries except for the service sector, where the coefficient is negative but not significant. A decrease in the number of employees does not have a significant impact on promotion in the three subsamples.

The log hourly pay appears to be higher in 2011 than in 2005 in manufacturing, construction and energy sectors (4 per cent) and in the wholesale and retail sector (3 per

cent). In the manufacturing, construction and energy sectors, where the number of employees decreased, hourly pay is lower by 2 per cent.

In this section we have examined the temporal and structural impacts on four dimensions of job quality in the three subsamples. We have found that in the manufacturing, construction and energy sectors work intensity and log hourly pay were higher in 2011 than in 2005. In these sectors, the perception of job insecurity was lower in 2011 than in 2005. In the wholesale and retail industries, work intensity, promotion prospects and the log hourly pay were higher in 2011 than in 2005. Finally, in the service sector, work intensity appears to have been higher in 2011 than in 2005 and no time effects were found with regard to the four dimensions of job quality.

7. Conclusion

This chapter has examined the link between workplace adjustment practices and the job quality of 'survivors' during the crisis using a rich French linked employer-employee data REPONSE (2005-2011). The chapter provides new evidence on the link between the evolution of separate dimensions of job quality and the situation in the workplace.

Pooled regression analyses have shown that three out of four dimensions of job quality perceptions have been affected by the crisis. Work intensity appears to have been higher in 2011 than in 2005. This result was confirmed by the industry-level analyses. Job insecurity was lower in 2011 than in 2005. However, industry-level analyses show that this was only the case in the manufacturing, construction and energy sectors. The perception of job promotion opportunities appears to have been higher in 2011 than in 2005 and industry-level analyses show that promotion opportunities in the post-crisis context were high in the wholesale and retail trades. Pooled regressions also showed that the log hourly wages were 2 per cent higher in 2011 than in 2005. Industry-level regressions showed that, with the exception of the service sector the log hourly wages were 3 per cent higher in 2011 than in 2005.

The new contribution of the current chapter was to use linked employer-employee data and to examine the link between the evolution of separate dimensions of job quality and the situation in the workplace. The results confirm that job quality is dependent on the workplace situation. More specifically, the results show that even if employees perceived job insecurity to be lower or promotion opportunities to be greater in the post-crisis context, once employment or activity decreased, perceptions of job insecurity became higher and optimism about promotion opportunities fell. Thus the current chapter highlights the fact that 'the workplace matters' in explaining variations in job quality at the individual level.

The current chapter also has several limitations. The major limitation of the current study is that the data do not allow us to follow employees across the years and measure change in the perception of job quality for the same workers. Having panel data available at the employee and employer level would have made it possible to perform causal analyses between 2005 and 2011 with regard to the economic crisis. To overcome this problem, one solution could be to generate a short pseudo-panel in order to analyse job quality trends, as has been done for job satisfaction trends (Green and Tsitsianis, 2005). Another solution could be to perform the same analyses using German longitudinal linked employer-employee data (LIAB).

The next limitation is the subjective evaluation of job quality. Although examining subjective evaluation of job quality is important from the policy perspective, the objective data on both job quality and business activity at the workplace level would help us produce stronger conclusions with regard to the three dimensions of job quality. For example, our results show that work intensity appears to be higher in the post-crisis period and independent of any change in activity. This result has been linked to the diminishing power of collective representation in France. However, if we believe that our work intensity measure '*hurry up always or often*' reflects the objective measure of work intensity then it might be possible that in the post-crisis context, firms adopted different human resource management practices in response to external pressure to be competitive and forced employees to meet different targets to those set in the pre-crisis context. As a result, work intensity in the post-crisis context would be higher but independent of the volume of activity. This question requires further investigation.

It is also worth mentioning that in the current chapter we have considered employees with at least 15 months' tenure which means that a high proportion of the employees in the current sample are permanent workers. Consequently, further empirical evidence is needed in order to examine the evolution of job quality among temporary workers in relation to workplace adjustment practices. It is necessary to examine whether inequalities appear with regard to separate dimensions of job quality. This research will also provide new evidence on the long-lasting effects of the 2008-2009 crisis on separate dimensions of job quality.

Finally, further research is also needed on the reactions of firms in terms of wages, working time adjustments, product market strategy and labour turnover. Matched industry-level data on output trends can be used in order to identify industries that were more/less affected by recession. It would then be necessary to study what role the economic crisis has played in the relation between the exit rate at the industry level and the link with industry

level average wages (Stoikov and Raimon, 1968; Burton and Parker, 1969; Pencavel, 1969). This calls for further research using both national panel data and linked employee-employer data.

Appendices

A1 **Work intensity:** Do you have to hurry up during your job?
Weighted frequencies in %.

	2005	2011
Always	27	31
Often	45	41
Sometimes	25	25
Never	2	2
Don't know	1	1

Notes: Weighted frequencies in the cells. 27 per cent of employees always had to hurry up during their jobs contrary to 31 per cent in 2011.

Base: All workplaces with 21 and more employees with at least 15 months of tenure in private sector workplaces.

Source: DARES, REPONSE (2005; 2011)

A2 **Job security:** During the next 12 months, what is the likelihood of losing your job? Weighted frequencies in %.

	2005	2011
Very high	4	4
High	9	8
Low	34	35
Very low	33	28
Don't know/missing	19	24

Notes: Weighted frequencies in the cells. In 2005 4 per cent of employees reported a very high likelihood of job loss in the next 12 months.

Base: All workplaces with 21 and more employees with at least 15 months of tenure in private sector workplaces.

Source: REPONSE (2005; 2011)

***A3* Job promotion opportunities:** During the next 12 months, what is the likelihood of being promoted or receiving a pay increase? Weighted frequencies in %.

	2005	2011
Very high	2	2
High	10	10
Low	39	35
Very low	34	31
Don't know/missing	15	21

Notes: Weighted frequencies in the cells. Both in 2005 and 2011 2 per cent of employees reported very high likelihood of job promotion.

Base: All workplaces with 21 and more employees with at least 15 months of tenure in private sector workplaces.

Source: REPONSE (2005; 2011)

***A4* Cross-tables between change in activity and total employment**

	Activity increased		**Activity remained stable**		**Activity decreased**	
	2005	**2011**	**2005**	**2011**	**2005**	**2011**
Employment increased	61	64	22	27	10	14
Employment stable	26	25	53	51	21	27
Employment decreased	12	11	25	22	69	60
N	4,233	4,026	2,331	3,144	1,263	2,766

Notes: Weighted frequencies in the cells. If two variables were independent, among workers, who were in establishments were the activity decreased, the share of those in establishments with increasing, decreasing or stable employment should be equal.

Base: All workplaces with 21 and more employees with at least 15 months of tenure in private sector workplaces.

Source: REPONSE (2005; 2011)

A5.1. Work intensity model

	Model 1	Model 2	Model 3
Constant	0.333***	0.335***	0.332***
	(0.0354)	(0.0355)	(0.0354)
Model 1			
Year 2011	0.0401***		
(Ref: 2005)	(0.00823)		
Decrease in activity	0.00292		
(Ref: increase or stability in activity)	(0.0108)		
Decrease in employment	0.0282***		
(Ref.: increase or stability in employment)	(0.0106)		
Model 2			
Year 2005*activity decreased		-0.0128	
*(Ref: 2005*increase or stability in activity)*		(0.0162)	
Year 2011*increase or stability in activity		0.0344***	
*(Ref: 2005*increase or stability in activity)*		(0.00930)	
Year 2011*decrease in activity		0.0495***	
*(Ref: 2005*increase or stability in activity)*		(0.0133)	
Decrease in employment		0.0289***	
(Ref : increase or stability in employment)		(0.0105)	
Model 3			
Year 2011			0.0398***
(Ref: 2005)			(0.00824)
Activity and Employment (*Ref : increase or stability in activity *increase or stability in employment*)			
Increase or stability in activity*decrease in employment			0.0358***
			(0.0128)
Decrease in activity * increase or stability in employment			0.0147
			(0.0149)
Decrease in activity * decrease in employment			0.0264**
			(0.0122)
Industry: Energy	-0.110***	-0.110***	-0.110***
(Ref: manufacturing)	(0.0293)	(0.0291)	(0.0293)
Construction	0.0284	0.0274	0.0285
	(0.0185)	(0.0185)	(0.0185)
Wholesale and retail	0.000798	0.00125	0.000608
	(0.0161)	(0.0161)	(0.0161)
Hotel and restaurants	0.0874**	0.0887**	0.0870**
	(0.0386)	(0.0387)	(0.0386)
Transport and communication	-0.0148	-0.0147	-0.0147
	(0.0161)	(0.0161)	(0.0161)
Financial services	-0.0309	-0.0306	-0.0308
	(0.0229)	(0.0228)	(0.0229)
Other business services	-0.0182	-0.0179	-0.0176
	(0.0142)	(0.0143)	(0.0142)
Education	-0.0323	-0.0336	-0.0309
	(0.0614)	(0.0613)	(0.0614)
Health	-0.0910***	-0.0907***	-0.0903***
	(0.0211)	(0.0211)	(0.0211)
Other community services	-0.0511*	-0.0510*	-0.0509*
	(0.0262)	(0.0262)	(0.0262)

(continued)

Workplace size: 50-99	0.00705	0.00714	0.00728
(Ref: less than 49 employees)	(0.0131)	(0.0131)	(0.0131)
100- 249	-0.0126	-0.0122	-0.0123
	(0.0119)	(0.0119)	(0.0119)
250-499	-0.00492	-0.00492	-0.00454
	(0.0152)	(0.0152)	(0.0152)
500 and more employees	-0.0179	-0.0181	-0.0181
	(0.0138)	(0.0138)	(0.0138)
Workplace age: 5 to 9 years	-0.0397	-0.0395	-0.0391
(Ref: less than 5 years)	(0.0279)	(0.0279)	(0.0278)
10 to 19 years	-0.0265	-0.0267	-0.0257
	(0.0251)	(0.0251)	(0.0251)
20 to 49 years	-0.0491**	-0.0494**	-0.0484**
	(0.0240)	(0.0240)	(0.0240)
50 years and more	-0.0602**	-0.0603**	-0.0596**
	(0.0247)	(0.0247)	(0.0247)
Workforce composition:			
Share of female workers	0.00133***	0.00134***	0.00133***
	(0.000243)	(0.000243)	(0.000243)
Share of employees less than 25 years old	0.00260***	0.00260***	0.00259***
(Ref: share of employees from 25 to 49)	(0.000636)	(0.000635)	(0.000637)
Share of employees more than 50 years old	-0.000544	-0.000551	-0.000555
	(0.000400)	(0.000399)	(0.000400)
Share of managerial employees	-0.00600*	-0.00601*	-0.00602*
(Ref: share of blue-collar workers)	(0.00336)	(0.00337)	(0.00337)
Share of professionals	-0.000823***	-0.000816***	-0.000824***
	(0.000274)	(0.000274)	(0.000274)
Share of technicians	-0.000508*	-0.000507*	-0.000517*
	(0.000290)	(0.000289)	(0.000289)
Share of clerks	-0.000287	-0.000292	-0.000290
	(0.000281)	(0.000281)	(0.000281)
Share of employees having fixed term contract	-0.000565	-0.000573	-0.000559
	(0.000383)	(0.000384)	(0.000383)
Share of employees having agency contract	0.000773**	0.000762**	0.000765**
	(0.000360)	(0.000358)	(0.000357)
Gender: male	-0.0245***	-0.0244***	-0.0246***
(Ref: female)	(0.00851)	(0.00850)	(0.00851)
Age: 30 to 39 years old	0.0206	0.0210	0.0205
(Ref: less than 29 years old)	(0.0131)	(0.0131)	(0.0131)
40-49 years old	0.0236*	0.0241*	0.0235*
	(0.0142)	(0.0142)	(0.0142)
50 years and more	0.0330**	0.0334**	0.0330**
	(0.0155)	(0.0155)	(0.0155)
Occupation: Technicians	-0.0832***	-0.0833***	-0.0831***
(*Ref: managers*)	(0.0135)	(0.0135)	(0.0135)
Clerks	-0.0560***	-0.0561***	-0.0561***
	(0.0160)	(0.0160)	(0.0160)
Blue-collar worker	-0.0374**	-0.0375**	-0.0376**
	(0.0149)	(0.0149)	(0.0149)

(continued)	Model 1	Model 2	Model 3
Tenure: 5 to 10 years old	0.0165	0.0165	0.0165
(Ref: less than 5 years)	(0.0117)	(0.0117)	(0.0117)
10 years and more	0.00779	0.00756	0.00778
	(0.0113)	(0.0112)	(0.0112)
R2	0.026	0.026	0.026
Observations	17932	17932	17932

Notes: Weighted OLS regressions controlling for individual and workplace job characteristics. In the model 1 we examine main effects of structural and temporal variables on four dimensions of job quality. In the model 2 we introduce interaction between the year variable and the business activity. In the model 3 we introduce the interaction between employment and activity on four dimensions of job quality. Key to statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%.

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months of tenure in private sector workplaces.

A5.2. Job insecurity model

	Model 1	Model 2	Model 3
Constant	0.192***	0.189***	0.193***
	(0.0290)	(0.0291)	(0.0290)
Model 1			
Year 2011	-0.0178***		
(Ref: 2005)	(0.00672)		
Decrease in activity	0.0880***		
(Ref: increase or stability in activity)	(0.0111)		
Decrease in employment	0.0683***		
(Ref.: increase or stability in employment)	(0.0103)		
Model 2			
Year 2005*activity decreased		0.107***	
*(Ref: 2005*increase or stability in activity)*		(0.0184)	
Year 2011*increase or stability in activity		-0.0110*	
*(Ref: 2005*increase or stability in activity)*		(0.00663)	
Year 2011*decrease in activity		0.0625***	
*(Ref: 2005*increase or stability in activity)*		(0.0128)	
Decrease in employment		0.0676***	
(Ref : increase or stability in employment)		(0.0104)	
Model 3			
Year 2011			-0.0176***
(Ref: 2005)			(0.00673)
Activity and Employment (*Ref : increase or stability in activity *increase or stability in employment*)			
Increase or stability in activity*decrease in employment			0.0619***
			(0.0121)
Decrease in activity * increase or stability in employment			0.0780***
			(0.0142)
Decrease in activity * decrease in employment			0.160***
			(0.0134)

(continued)	Model 1	Model 2	Model 3
Industry: Energy	-0.131***	-0.131***	-0.131***
(Ref: manufacturing)	(0.0167)	(0.0168)	(0.0166)
Construction	-0.0725***	-0.0713***	-0.0725***
	(0.0127)	(0.0127)	(0.0127)
Wholesale and retail	-0.0361***	-0.0366***	-0.0359***
	(0.0121)	(0.0121)	(0.0121)
Hotel and restaurants	-0.0641***	-0.0656***	-0.0637***
	(0.0245)	(0.0243)	(0.0245)
Transport and communication	-0.0288**	-0.0291**	-0.0289**
	(0.0136)	(0.0136)	(0.0136)
Financial services	-0.0121	-0.0124	-0.0121
	(0.0183)	(0.0182)	(0.0183)
Other business services	-0.0133	-0.0136	-0.0137
	(0.0131)	(0.0131)	(0.0131)
Education	0.00338	0.00493	0.00221
	(0.0746)	(0.0750)	(0.0745)
Health	-0.0611***	-0.0615***	-0.0617***
	(0.0138)	(0.0138)	(0.0138)
Other community services	-0.0654***	-0.0655***	-0.0656***
	(0.0169)	(0.0169)	(0.0169)
Workplace size: 50-99	0.00123	0.00112	0.00103
(Ref: less than 49 employees)	(0.00972)	(0.00972)	(0.00971)
100- 249	0.0176*	0.0171*	0.0174*
	(0.00969)	(0.00969)	(0.00970)
250-499	-0.00408	-0.00408	-0.00441
	(0.0128)	(0.0128)	(0.0128)
500 and more employees	-0.0211*	-0.0209*	-0.0210*
	(0.0112)	(0.0112)	(0.0112)
Workplace age: 5 to 9 years	-0.0315	-0.0317	-0.0320
(Ref: less than 5 years)	(0.0234)	(0.0235)	(0.0234)
10 to 19 years	-0.0205	-0.0202	-0.0212
	(0.0215)	(0.0215)	(0.0214)
20 to 49 years	-0.0375*	-0.0372*	-0.0381*
	(0.0209)	(0.0210)	(0.0209)
50 years and more	-0.0563***	-0.0562***	-0.0568***
	(0.0216)	(0.0216)	(0.0216)
Workforce composition:			
Share of female workers	-9.73e-05	-0.000110	-9.41e-05
	(0.000209)	(0.000209)	(0.000208)
Share of employees less than 25 years old	-0.00125***	-0.00125***	-0.00125***
(Ref: share of employees from 25 to 49)	(0.000443)	(0.000442)	(0.000444)
Share of employees more than 50 years old	-0.000481	-0.000474	-0.000473
	(0.000361)	(0.000360)	(0.000361)
Share of managerial employees	-0.00269	-0.00267	-0.00266
(Ref: share of blue-collar workers)	(0.00227)	(0.00227)	(0.00227)
Share of professionals	3.15e-05	2.36e-05	3.22e-05
	(0.000241)	(0.000241)	(0.000241)
Share of technicians	1.99e-05	1.81e-05	2.77e-05
	(0.000234)	(0.000234)	(0.000235)

(continued)	**Model 1**	**Model 2**	**Model 3**
Share of clerks	-7.51e-05	-6.97e-05	-7.27e-05
	(0.000227)	(0.000227)	(0.000227)
Share of employees having fixed term contract	-4.17e-05	-3.22e-05	-4.67e-05
	(0.000222)	(0.000221)	(0.000222)
Share of employees having agency contract	-0.000132	-0.000119	-0.000126
	(0.000255)	(0.000255)	(0.000254)
Gender: male	0.00433	0.00421	0.00447
(Ref: female)	(0.00587)	(0.00587)	(0.00587)
Age: 30 to 39 years old	0.0165*	0.0160*	0.0165*
(Ref: less than 29 years old)	(0.00911)	(0.00911)	(0.00911)
40-49 years old	0.0286***	0.0280***	0.0287***
	(0.00994)	(0.00993)	(0.00993)
50 years and more	0.0192*	0.0188*	0.0192*
	(0.0109)	(0.0109)	(0.0109)
Occupation: Technicians	-0.000934	-0.000860	-0.00101
(*Ref: managers*)	(0.00968)	(0.00967)	(0.00968)
Clerks	0.000549	0.000581	0.000594
	(0.0114)	(0.0114)	(0.0114)
Blue-collar worker	-0.0108	-0.0107	-0.0107
	(0.0108)	(0.0108)	(0.0108)
Tenure: 5 to 10 years old	-0.0196**	-0.0196**	-0.0196**
(Ref: less than 5 years)	(0.00819)	(0.00819)	(0.00819)
10 years and more	-0.0270***	-0.0267***	-0.0270***
	(0.00760)	(0.00759)	(0.00761)
R2	0,04	0,04	0,04
Observations	17932	17932	17932

Notes : Weighted OLS regressions controlling for individual and workplace job characteristics. In the model 1 we examine main effects of structural and temporal variables on four dimensions of job quality. In the model 2 we introduce interaction between the year variable and the business activity. In the model 3 we introduce the interaction between employment and activity on four dimensions of job quality. Key to statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%.

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months of tenure in private sector workplaces.

A5.3. Job promotion model

	Model 1	Model 2	Model 3
Constant	2.246***	2.252***	2.249***
	(0.228)	(0.228)	(0.227)
Model 1			
Year 2011	0.435***		
(Ref: 2005)	(0.0511)		
Decrease in activity	-0.157**		
(Ref: increase or stability in activity)	(0.0703)		
Decrease in employment	-0.0392		
(Ref.: increase or stability in employment)	(0.0658)		
Model 2			
Year 2005*activity decreased		-0.207**	
*(Ref: 2005*increase or stability in activity)*		(0.103)	
Year 2011*increase or stability in activity		0.417***	
*(Ref: 2005*increase or stability in activity)*		(0.0574)	
Year 2011*decrease in activity		0.299***	
*(Ref: 2005*increase or stability in activity)*		(0.0877)	
Decrease in employment		-0.0371	
(Ref : increase or stability in employment)		(0.0658)	
Model 3			
Year 2011			0.436***
(Ref: 2005)			(0.0512)
Activity and Employment (*Ref : increase or stability in activity *increase or stability in employment*)			
Increase or stability in activity*decrease in employment			-0.0561
			(0.0783)
Decrease in activity * increase or stability in employment			-0.183*
			(0.0953)
Decrease in activity * decrease in employment			-0.186**
			(0.0814)
Industry: Energy	0.624***	0.624***	0.623***
(Ref: manufacturing)	(0.210)	(0.210)	(0.210)
Construction	0.463***	0.460***	0.463***
	(0.122)	(0.122)	(0.122)
Wholesale and retail	0.0436	0.0450	0.0440
	(0.0922)	(0.0922)	(0.0923)
Hotel and restaurants	0.798***	0.802***	0.799***
	(0.225)	(0.225)	(0.226)
Transport and communication	-0.0747	-0.0742	-0.0750
	(0.110)	(0.110)	(0.110)
Financial services	0.338**	0.339**	0.337**
	(0.142)	(0.142)	(0.142)
Other business services	0.256***	0.257***	0.255***
	(0.0958)	(0.0957)	(0.0956)
Education	0.403	0.399	0.400
	(0.373)	(0.375)	(0.374)
Health	0.326**	0.327**	0.325**
	(0.132)	(0.132)	(0.132)

(continued)	Model 1	Model 2	Model 3
Other community services	0.297*	0.297*	0.297*
	(0.179)	(0.179)	(0.179)
Workplace size: 50-99	-0.0396	-0.0393	-0.0402
(Ref: less than 49 employees)	(0.0787)	(0.0787)	(0.0787)
100- 249	-0.0906	-0.0894	-0.0912
	(0.0740)	(0.0740)	(0.0740)
250-499	0.114	0.114	0.113
	(0.101)	(0.101)	(0.101)
500 and more employees	0.145*	0.144*	0.145*
	(0.0836)	(0.0836)	(0.0836)
Workplace age: 5 to 9 years	0.224	0.225	0.223
(Ref: less than 5 years)	(0.185)	(0.185)	(0.185)
10 to 19 years	-0.0307	-0.0314	-0.0324
	(0.168)	(0.168)	(0.168)
20 to 49 years	0.0375	0.0367	0.0360
	(0.163)	(0.163)	(0.163)
50 years and more	0.0567	0.0562	0.0555
	(0.167)	(0.167)	(0.168)
Workforce composition:			
Share of female workers	0.00105	0.00108	0.00105
	(0.00158)	(0.00158)	(0.00158)
Share of employees less than 25 years old	0.00301	0.00300	0.00303
(Ref: share of employees from 25 to 49)	(0.00373)	(0.00372)	(0.00373)
Share of employees more than 50 years old	0.00130	0.00128	0.00132
	(0.00251)	(0.00251)	(0.00251)
Share of managerial employees	0.0102	0.0101	0.0102
(Ref: share of blue-collar workers)	(0.0202)	(0.0202)	(0.0202)
Share of professionals	-0.00113	-0.00111	-0.00113
	(0.00174)	(0.00174)	(0.00174)
Share of technicians	-0.00522***	-0.00522***	-0.00520***
	(0.00176)	(0.00176)	(0.00176)
Share of clerks	-0.00306*	-0.00307*	-0.00305
	(0.00185)	(0.00185)	(0.00185)
Share of employees having fixed term contract	0.00382*	0.00379*	0.00380*
	(0.00229)	(0.00229)	(0.00230)
Share of employees having agency contract	0.00386	0.00382	0.00388
	(0.00295)	(0.00295)	(0.00296)
Gender: male	0.0218	0.0221	0.0221
(Ref: female)	(0.0641)	(0.0640)	(0.0641)
Age: 30 to 39 years old	0.161**	0.162**	0.161**
(Ref: less than 29 years old)	(0.0796)	(0.0796)	(0.0796)
40-49 years old	0.365***	0.367***	0.365***
	(0.0860)	(0.0859)	(0.0859)
50 years and more	0.489***	0.490***	0.489***
	(0.0987)	(0.0987)	(0.0987)
Occupation: Technicians	0.0338	0.0336	0.0336
(*Ref: managers*)	(0.0767)	(0.0766)	(0.0767)

(continued)	Model 1	Model 2	Model 3
Clerks	0.414***	0.414***	0.414***
	(0.0999)	(0.0998)	(0.0999)
Blue-collar worker	0.700***	0.699***	0.700***
	(0.0865)	(0.0865)	(0.0865)
Tenure: 5 to 10 years old	-0.0721	-0.0722	-0.0721
(Ref: less than 5 years)	(0.0745)	(0.0745)	(0.0745)
10 years and more	-0.221***	-0.221***	-0.221***
	(0.0724)	(0.0724)	(0.0724)
R2	0,03	0,03	0,03
Observations	17932	17932	17932

Notes : Weighted OLS regressions controlling for individual and workplace job characteristics. In the model 1 we examine main effects of structural and temporal variables on four dimensions of job quality. In the model 2 we introduce interaction between the year variable and the business activity. In the model 3 we introduce the interaction between employment and activity on four dimensions of job quality. Key to statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%.

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months of tenure in private sector workplaces.

A5.4. The log hourly pay model

	Model 1	Model 2	Model 3
Constant	2.682***	2.683***	2.682***
	(0.0262)	(0.0263)	(0.0262)
Model 1			
Year 2011	0.0192***		
(Ref: 2005)	(0.00603)		
Decrease in activity	-0.00612		
(Ref: increase or stability in activity)	(0.00817)		
Decrease in employment	-0.00504		
(Ref.: increase or stability in employment)	(0.00886)		
Model 2			
Year 2005*activity decreased		-0.0189	
*(Ref: 2005*increase or stability in activity)*		(0.0121)	
Year 2011*increase or stability in activity		0.0146**	
*(Ref: 2005*increase or stability in activity)*		(0.00687)	
Year 2011*decrease in activity		0.0185**	
*(Ref: 2005*increase or stability in activity)*		(0.00929)	
Decrease in employment		-0.00449	
(Ref : increase or stability in employment)		(0.00886)	
Model 3			
Year 2011			0.0193***
(Ref: 2005)			(0.00602)

(continued)	Model 1	Model 2	Model 3
Activity and Employment (*Ref : increase or stability in activity *increase or stability in employment*)			
Increase or stability in activity*decrease in employment			-0.00649
			(0.0110)
Decrease in activity * increase or stability in employment			-0.00840
			(0.0111)
Decrease in activity * decrease in employment			-0.0102
			(0.00888)
Industry: Energy	0.0212	0.0212	0.0212
(Ref: manufacturing)	(0.0249)	(0.0250)	(0.0249)
Construction	0.0390***	0.0381***	0.0389***
	(0.0137)	(0.0137)	(0.0137)
Wholesale and retail	-0.0710***	-0.0706***	-0.0709***
	(0.0113)	(0.0113)	(0.0113)
Hotel and restaurants	-0.105***	-0.104***	-0.105***
	(0.0210)	(0.0209)	(0.0210)
Transport and communication	-0.00326	-0.00310	-0.00328
	(0.0122)	(0.0123)	(0.0122)
Financial services	-0.0285	-0.0283	-0.0285
	(0.0227)	(0.0227)	(0.0227)
Other business services	-0.0937***	-0.0935***	-0.0938***
	(0.0113)	(0.0113)	(0.0113)
Education	-0.113	-0.114	-0.113
	(0.0802)	(0.0804)	(0.0803)
Health	-0.132***	-0.131***	-0.132***
	(0.0184)	(0.0184)	(0.0185)
Other community services	-0.0649***	-0.0649***	-0.0650***
	(0.0209)	(0.0209)	(0.0209)
Workplace size: 50-99	0.0109	0.0110	0.0109
(Ref: less than 49 employees)	(0.00878)	(0.00878)	(0.00878)
100- 249	0.0176**	0.0179**	0.0175**
	(0.00877)	(0.00878)	(0.00877)
250-499	0.0506***	0.0506***	0.0505***
	(0.0107)	(0.0107)	(0.0107)
500 and more employees	0.0880***	0.0878***	0.0880***
	(0.0102)	(0.0102)	(0.0102)
Workplace age: 5 to 9 years	-0.00362	-0.00350	-0.00373
(Ref: less than 5 years)	(0.0226)	(0.0227)	(0.0226)
10 to 19 years	-0.0131	-0.0133	-0.0133
	(0.0194)	(0.0194)	(0.0194)
20 to 49 years	-0.00744	-0.00764	-0.00757
	(0.0188)	(0.0189)	(0.0188)
50 years and more	0.0121	0.0120	0.0120
	(0.0194)	(0.0195)	(0.0194)
Workforce composition:			
Share of female workers	-0.000253	-0.000244	-0.000252
	(0.000182)	(0.000182)	(0.000182)
Share of employees less than 25 years old	-0.00141***	-0.00142***	-0.00141***
(Ref: share of employees from 25 to 49)	(0.000395)	(0.000394)	(0.000394)
Share of employees more than 50 years old	-6.52e-05	-7.08e-05	-6.32e-05
	(0.000306)	(0.000305)	(0.000306)

(continued)	Model 1	Model 2	Model 3
Share of managerial employees	0.00377	0.00376	0.00378
(Ref: share of blue-collar workers)	(0.00242)	(0.00241)	(0.00242)
Share of professionals	0.00362***	0.00362***	0.00362***
	(0.000238)	(0.000238)	(0.000238)
Share of technicians	0.00236***	0.00236***	0.00236***
	(0.000229)	(0.000228)	(0.000229)
Share of clerks	0.000473**	0.000470**	0.000474**
	(0.000194)	(0.000193)	(0.000194)
Share of employees having fixed term contract	-0.000218	-0.000225	-0.000219
	(0.000215)	(0.000215)	(0.000215)
Share of employees having agency contract	2.02e-05	1.12e-05	2.17e-05
	(0.000236)	(0.000237)	(0.000237)
Gender: male	0.115***	0.115***	0.115***
(Ref: female)	(0.00821)	(0.00822)	(0.00820)
Age: 30 to 39 years old	0.0817***	0.0820***	0.0817***
(Ref: less than 29 years old)	(0.00722)	(0.00721)	(0.00722)
40-49 years old	0.150***	0.150***	0.150***
	(0.00790)	(0.00789)	(0.00790)
50 years and more	0.171***	0.171***	0.171***
	(0.00926)	(0.00925)	(0.00926)
Occupation: Technicians	-0.417***	-0.417***	-0.417***
(*Ref: managers*)	(0.00978)	(0.00979)	(0.00978)
Clerks	-0.615***	-0.615***	-0.615***
	(0.0111)	(0.0111)	(0.0111)
Blue-collar worker	-0.675***	-0.675***	-0.675***
	(0.0102)	(0.0103)	(0.0102)
Tenure: 5 to 10 years old	0.0562***	0.0562***	0.0562***
(Ref: less than 5 years)	(0.00711)	(0.00711)	(0.00711)
10 years and more	0.103***	0.103***	0.103***
	(0.00696)	(0.00696)	(0.00695)
R2	0,64	0,64	0,64
Observations	17878	17878	17878

Notes : Weighted OLS regressions controlling for individual and workplace job characteristics. In the model 1 we examine main effects of structural and temporal variables on four dimensions of job quality. In the model 2 we introduce interaction between the year variable and the business activity. In the model 3 we introduce the interaction between employment and activity on four dimensions of job quality. Key to statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%.

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months of tenure in private sector workplaces.

A6. **Industry level analyses.**

	Work intensity			**Job insecurity**			**Job promotion**			**Log hourly wages**		
	1[13]	2[14]	3[15]	1	2	3	1	2	3	1	2	3
Year 2011	0.03**	0.06***	0.04***	-0.04***	-0.00	0.00	0.01	0.04***	0.01	0.04***	0.03**	-0.00
	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Decrease in activity	-0.00	0.01	0.01	0.11***	0.05**	0.09***	-0.03**	-0.05***	-0.01	0.00	-0.01	-0.01
(ref: increase in activity)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
Decrease in the number of employees	0.02	0.03	0.03*	0.07***	0.06**	0.06***	-0.01	-0.01	-0.01	-0.02**	0.02	0.01
(ref: increase in the number of employees)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
Model 1 Industry: Energy	-0.11***			-0.12***			-0.01			0.02		
(ref: manufacturing)	(0.03)			(0.02)			(0.04)			(0.03)		
Model 1 Construction	0.03			-0.05***			-0.00			0.04**		
	(0.02)						(0.01)			(0.02)		
Model 2 Wholesale and retail		-									-	
Model 3 Hotel and restaurants			0.05			-0.05			-0.00			-0.09**
			(0.07)			(0.06)			(0.04)			(0.04)
Transport and communication			-0.04			0.00			0.02			0.05
			(0.06)			(0.05)			(0.04)			(0.04)
Financial services			-0.06			0.03			-0.01			0.01
			(0.06)			(0.05)			(0.04)			(0.04)
Other business services			-0.05			0.02			0.03			-0.06*
			(0.06)			(0.05)			(0.04)			(0.04)
Education			-0.06			0.04			-0.01			-0.09
			(0.09)			(0.09)			(0.06)			(0.09)

[13] Manufacturing, Energy and Construction
[14] Wholesale and retail
[15] Service sectors

(continued)	Work intensity			Job insecurity			Job promotion			Log hourly wages		
	1[16]	2[17]	3[18]	1	2	3	1	2	3	1	2	3
Health			-0.13**			-0.02			-0.03			-0.12***
			(0.06)			(0.05)			(0.04)			(0.04)
Other community services			-0.08			-0.03			0.04			-0.03
			(0.06)			(0.05)			(0.05)			(0.04)
Workplace size: 50-99	0.03	-0.01	0.00	-0.02	0.01	0.01	-0.01	0.02	0.00	0.02	0.05***	-0.01
(ref: less than 49 employees)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)
100- 249	-0.01	0.00	-0.02	0.03*	0.02	-0.00	0.01	0.01	-0.00	0.06***	0.07***	-0.02
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
250-499	-0.03	-0.00	0.02	-0.00	-0.00	-0.01	0.02	0.04*	0.01	0.08***	0.06**	0.04**
	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
500 and more employees	-0.01	0.04	-0.03	-0.03	0.02	-0.02	0.06***	0.01	0.04*	0.14***	0.07***	0.05***
	(0.02)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Workplace age: 5 to 9 years	0.02	-0.14**	-0.03	-0.04	-0.07	-0.00	-0.01	0.02	-0.00	-0.00	0.01	-0.00
(ref: less than 5 years)	(0.05)	(0.06)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)
10 to 19 years	-0.00	-0.12**	0.00	-0.04	-0.04	0.01	0.02	-0.00	0.02	0.00	0.01	-0.02
	(0.04)	(0.05)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)
20 to 49 years	-0.01	-0.14***	-0.03	-0.04	-0.07*	-0.01	-0.00	0.00	0.03	0.01	0.00	-0.01
	(0.04)	(0.05)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)
50 years and more	-0.02	-0.21***	-0.03	-0.05*	-0.09**	-0.04	-0.01	-0.02	0.05*	0.02	0.01	0.01
	(0.04)	(0.06)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.05)	(0.03)
Workforce composition: Share of female workers	0.00***	-0.00	0.00***	0.00*	-0.00	-0.00*	-0.00	-0.00	0.00	-0.00	-0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of employees under 25	0.00**	0.00**	0.00*	-0.00**	0.00	-0.00*	0.00***	-0.00	0.00	0.00	-0.00*	-0.00***
(ref: 25 to 49)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

[16] Manufacturing, Energy and Construction
[17] Wholesale and retail
[18] Service sectors

(continued)	Work intensity			Job insecurity			Job promotion			Log hourly wages		
	1[19]	2[20]	3[21]	1	2	3	1	2	3	1	2	3
Share of employees over 50	0.00	-0.00	-0.00**	-0.00	-0.00	-0.00	0.00**	-0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of professionals	-0.00	-0.00	-0.01**	-0.01*	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01*	0.01*
(ref : managers)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of technicians	-0.00***	0.00	-0.00***	0.00	0.00	-0.00	0.00**	0.00*	0.00**	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of clerks	-0.00**	0.00	-0.00	-0.00	0.00	0.00	0.00**	0.00	-0.00	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of blue-collar	0.00*	0.00	-0.00	0.00	-0.00	0.00	-0.00*	0.00	-0.00	-0.00	-0.00	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of fixed term	0.00	-0.00*	-0.00*	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00**	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Share of agency	0.00	0.00	0.00**	0.00	0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender: male (ref: female)	-0.06***	0.01	-0.02*	0.02	-0.01	0.01	0.03**	0.07***	0.01	0.14***	0.13***	0.10***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Age: 30 to 39 years old	0.04**	0.02	0.01	0.01	0.01	0.02	-0.04**	-0.01	-0.06***	0.08***	0.05***	0.11***
(ref: less than 29 years old)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
40-49 years old	0.04*	0.01	0.01	0.01	0.03	0.04**	-0.07***	-0.05**	-0.09***	0.16***	0.10***	0.17***
	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)
50 years and more	0.06**	0.05	0.01	0.00	0.04*	0.03	-0.12***	-0.08***	-0.12***	0.17***	0.11***	0.21***
	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)
	(0.2)	(0.28)	(0.09)	(0.11)	(0.14)	(0.07)	(0.12)	(0.15)	(0.10)	(0.02)	(0.03)	(0.14)
Occupation: Technicians	-0.07***	-0.04	-0.11***	0.01	-0.03	-0.00	-0.07***	-0.07**	-0.06***	-0.43***	-0.68***	-0.40***
(ref: managers)	(0.02)	(0.04)	(0.02)	(0.01)	(0.03)	(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)
Clerks	-0.12***	-0.02	-0.05**	0.04*	-0.04	-0.01	-0.09***	-0.12***	-0.09***	-0.57***	-0.72***	-0.61***
	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)

[19] Manufacturing, Energy and Construction
[20] Wholesale and retail
[21] Service sectors

(continued)	Work intensity			Job insecurity			Job promotion			Log hourly wages		
	1[22]	2[23]	3[24]	1	2	3	1	2	3	1	2	3
Blue-collar worker	-0.04**	0.04	-0.06**	0.01	-0.05*	-0.02	-0.13***	-0.12***	-0.12***	-0.67***	-0.49***	-0.68***
	(0.02)	(0.04)	(0.03)	(0.01)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.10)	(0.02)
Tenure: 5 to 10 years old	0.00	-0.01	0.03**	-0.01	-0.01	-0.02**	-0.04***	0.01	-0.01	0.06***	0.10***	0.06***
(ref: less than 5 years)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
10 years and more	0.00	-0.02	0.02	-0.00	-0.03	-0.05***	-0.06***	-0.04*	-0.03***	0.11***	0.07	0.10***
	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.08)	(0.01)
Constant	0.29***	0.36***	0.38***	0.14***	0.19***	0.15**	0.24***	0.18***	0.20***	2.61***	2.72***	2.64***
	(0.06)	(0.08)	(0.08)	(0.05)	(0.06)	(0.07)	(0.05)	(0.06)	(0.05)	(0.04)	(0.06)	(0.05)
Observations	7,261	7,261	7,261	7,261	7,261	7,261	7,261	7,261	7,261	7,259	7,259	7,259
R-squared	0.03	0.03	0.03	0.06	0.03	0.04	0.07	0.08	0.07	0.63	0,66	0.63

Notes: Weighted OLS regressions controlling for individual and workplace job characteristics In the model 1 we examine main effects of structural and temporal variables on four dimensions of job quality in manufacturing, energy and construction sectors. In the model 2 we examine main effects of structural and temporal variables on four dimensions of job quality in wholesale and retail industry. Finally, in the model 3 we examine main effects of structural and temporal variables on four dimensions of job quality in service sectors.

Key statistical significance: ***significant at 1%, **significant at 5%, *significant at 10%.

Base: Pooled workplaces (2005-2011) with 21 and more employees with at least 15 months of tenure in private sector workplaces.

[22] Manufacturing, Energy and Construction

[23] Wholesale and retail

[24] Service sectors

Chapter 2[25]

Job Quality in two different National Institutional Regimes

1. Introduction

Institutional theories highlight the importance of examining job quality from a cross-national perspective as it is considered to be a result of differences in national institutional regimes (Gallie, 2007; 2009; Goergen *et al.*, 2009). Drawing on theoretical frameworks from the varieties of capitalism and power resource approaches, job quality scholars have examined whether macro-level features can explain country differences in perceived job quality. However, the relation between job quality and firm size has not received much attention in the institutional theory literature. Thus the current chapter investigates the impact of firm size on job quality in two different national institutional regimes – France and Great-Britain. France is said to have a dualist employment regime, with a well-protected core of workers surrounded by a growing precarious periphery. Great-Britain, on the other hand, exemplifies a market-based employment regime with very limited employment protection and weak employment regulation (Gallie, 2007; Holman, 2013). Drawing on institutional theories, this chapter provides empirical evidence on the relation between firm size and the non-pecuniary aspects of job quality using rich French and British linked employer-employee datasets (REPONSE (2010-2011) and WERS (2010-2011)).

According to employment regime framework, job quality should differ in different national institutional regimes (Gallie, 2007). The difference in national institutional regimes is related to employment policies and the relative capacity of organized labour. In dualist regimes, employment regime theory suggests that organized labour is strongest in those areas of the economy where it can mobilize the workforce, such as the core employees of large firms (Culpepper, 1999; Hyman, 2001). In market employment regimes, on the other hand, organized labour has little involvement in decision-making within firms as some institutional actors consider to be a competing interest group (Hyman, 2001). Given that organized labour has more capacity to influence employment regulation and working conditions in large firms within dualist regimes, one might also expect job quality to be higher in large firms in dualist regimes than in small firms (Holman, 2013; Streeck, 1991; Thelen and Kume, 1999). Institutional scholars argue

[25] One part of Chapter 2 was developed together with Alex Bryson and Christine Erhel during the joint Leverhulme project that investigated employment relations practices, procedures and structures in Great Britain and France. The contribution of my thesis is the analysis of firm size and the detailed description of institutional differences between France and Great Britain.

that the polarization of job quality should not occur in market employment regimes, as the influence of organized labour is uniform across the economy (Holman, 2013). In order to investigate these expectations in greater detail, the present chapter will examine the variation in job quality in France and in Great-Britain with a focus on size of firm.

Thus this chapter's contribution to the job quality literature will be achieved in several ways. Firstly, it contributes to the literature on institutional systems in France and in Great-Britain by examining cross-national variation in the composite indicator of job quality using workplace data (Bryson *et al.*, forthcoming, Van Wanrooy *et al.*, 2013). The existing institutional studies have mainly focused on the individual level data in the *European Working Conditions Survey*. Introducing the workplace as a determinant of job quality will enable us to include correlates of job quality relating to both employee and the workplace.[26] Secondly, this chapter examines the relation between non-pecuniary aspects of job quality and firm size. On the one hand, existing studies have examined firm size in relation to job satisfaction (Clark, 1996; Hamermesh, 2000; Uppal, 2005; Böckerman and Ilmakunas, 2006; Haile, 2015) and shown that job satisfaction is lower in larger firms than in small firms. On the other hand, 'mainstream' labour economists have examined the effect of employer size on wages (Oi, 1983; Brown and Medoff, 1989). However, the relation between job quality and firm size is missing in the institutional theory literature. The chapter's third contribution is to examine the relation between pecuniary and non-pecuniary aspects of job quality. In countries where organized labour has more bargaining power, workers may seek to bargain over both job quality and wages. Thus, the subsample of large firms will be used to examine the relation between pecuniary and non-pecuniary aspects of job quality in two countries. Finally, this chapter considers a multi-dimensional measure of non-pecuniary job quality based on employee ratings as is common in much of the literature (Gallie, 2007; Davoine *et al.*, 2008; Green *et al*, 2013, Muñoz de Bustillo *et al.*, 2011). The WERS and REPONSE employee surveys contain information on eight dimensions of job quality: work intensity, job autonomy, work-life balance, manager-employee relation, job security, ability to develop skills, training possibilities and skills match to a job.

The findings of the current chapter confirm that national institutional regimes are sufficiently different and still sufficiently influential to produce cross-national variations in job quality in both countries. In dualist regimes, overall job quality appears to be higher in large firms than in small firms. In market employment regimes, job quality appears to be lower in large firms than in small

[26] The motivation is provided by the recent evidence from Barth *et al.* (2014) and Song *et al.* (2015), who show that most of the growth in wage variance in the United States since the 1970s is accounted for by where you work not who you are.

firms. Furthermore, the chapter shows that the wage residual can be viewed as a complementary part of job quality in France whereas the relation appears to be very weak in Great-Britain.

The chapter is structured as follows. Section 2 describes the institutional differences between France and Great-Britain. Section 3 provides the measurement of variables and the descriptive statistics. Section 4 describes the empirical method. Section 5 discusses the results and section 6 concludes the chapter.

2. Institutional differences between France and Great-Britain and the role of size of firm

The aim of this section is to present the contrasts between France and Great-Britain, which will help us to define the expectations with regard to job quality in both countries.

Great-Britain offers limited employment protection, weak support for employers' investment in workplace training and limited regulation of pay setting. This suggests a labour market that is characterized by firms offering relatively little skill development opportunities and workers prospering by using generalizable human capital to switch firms for career development. The institutional literature in the past characterized Great-Britain as a country of occupational labour markets (OLM), in which employers and unions used to organize external mobility inside occupations (Eyraud *et al.*, 1990), whereas today considerable responsibility is placed on individual employees. These observations suggest that the lower levels of employment protection and employment create a relatively fluid labour market, where employers are less willing to train because returns on such investments are less likely (Cappeli *et al.*, 1997; Finegold and Soskice, 1988).

France, on the other hand, is said to have a dualist employment regime, with a well-protected core of workers, surrounded by a growing precarious periphery and weak policies to facilitate labour market integration (Maurice *et al.*, 1986[27]; Marsden 1990). Peripheral workers experience high labour turnover, are excluded from firms' investment in training and find it more difficult to make the transition to permanent work (Piore, 1978; Barbanchon and Malherbert, 2013). The differences between core and peripheral workers can be observed in work reform programmes, in the strength of insider protection and in the wage dispersion.[28] We will examine the differences of these two regimes greater detail and discuss their implications for job quality.

[27] Maurice, Sellier, and Silvestre (1986) conducted comparative work between France and Germany. Germany is categorized as a dualist regime.

[28] Following Piore (1980: 24) labour market participants can be categorized as 'insiders' or 'outsiders' with the latter providing the flexibility firms require in the form of atypical employment or unemployment (Emmenegger *et*

For decades, French governments have put employment protection high on the political agenda (Blanchard and Tirole, 2003). France has a stable level of regulation for open-ended contracts, and in the event of collective dismissals employers are obliged to find alternative jobs for their employees (Eichhorst, 2007). This applies particularly to large firms that have to offer 'reclassification leave' to employees before dismissals become effective (Beninger, 2005, Jamet, 2006). However, fixed-term employment, temporary agency work, internships and several forms of subsidized employment contribute to dual structure of employment protection in France (Beninger, 2005). Labour market scholars argue that, rather than protecting all labour market participants, unions and political parties usually focus on the interests of their members and the 'core' workers, respectively, most of whom are in standard employment relationships (for instance, Gautié, 2011).

These observations imply that the French unions have an institutionalized role in the adoption of political reforms. In order to keep their institutional power resources, unions, *de facto*, defend the two-tier labour market reforms as their preferences are dependent on the institutional context (Davidsson and Emmenegger, 2013). For example, in negotiating in job security legislation, the unions' main aim is to maintain the protection given to workers on permanent contracts, which leads them to compromise on the regulation of temporary employment. This strategy enables them to retain their institutional role and to protect their organizational interests. Contrary to France, British unions do not have an institutionalized role in the administration of dismissals and their objectives do not include the defence of protective legislation on open-ended contracts (Davidsson and Emmenegger, 2013). As a result, employers have greater flexibility to hire and fire workers in the UK than in many other European countries and unions have less power to affect employment conditions, whether at the national political or at the workplace level (Green, 2013).

In explaining why insiders have been privileged over outsiders in labour market reforms, the literature has focused on unions' preferences for defending member interests (Lindbeck and Snower 1988; Rueda, 2007; Saint-Paul, 2002). Given the overrepresentation of labour market insiders among the unionized positions, unions are expected to approve reforms that increase labour market flexibility and oppose reforms that disadvantage labour market insiders (Davidsson and Emmenegger, 2013). Consequently, Davidsson and Emmenegger (2013) argue that the union membership variable is the crucial variable in explaining the dualist tendencies of labour market

al., 2011:10). The institutional approach argues that firms establish internal labour markets (ILMs) which are employment practices and outcomes inside an organization (Doeringer and Piore, 1971; Osterman, 2011). Core workers are characterized by ongoing skill development, opportunities for career progression and higher returns to seniority (Eyraud *et al.*, 1990).

reforms. For example, the Swedish unions pursue more egalitarian policies and consider outsiders' interests as they tend to have members who hold atypical jobs. In contrast, the more union membership is skewed towards labour market insiders, as it is in France, the less likely they are to consider outsiders' interests. However, Amossé and Wolff (2009) argue that union density is not a good indicator of union strength at the workplace in France, as the support for union representatives depends on legal support and national financing via training funds (Andolfatto and Labbé, 2009). In order to examine this in greater detail, Amossé and Forth (forthcoming) use the REPONSE and WERS surveys to show that, in aggregate, 15 per cent of all private sector employees belong to a trade union in Great-Britain which is higher than the 9 per cent in France. However, when they examine the spread of union membership across workplaces, they find that the incidence of unionism is much more prevalent across workplaces in France than in Great-Britain and that this difference may be related to the institutional support that union representatives receive in France – particularly in medium-sized and large workplaces. In Great-Britain union representation is rare[29] in private sector workplaces (Amossé and Forth, forthcoming). The British industrial relations system is characterized as voluntarist[30] with weak state support.

These observations may suggest that employee bargaining power is great in medium-sized and larger firms in France than in small firms. This is in line with Holman's (2013) expectations that within dualist regimes the historical involvement of organized labour is much greater in larger firms, which increases its chances of influencing working conditions and employment regulation. This suggests that average job quality might be expected to be higher in France in larger firms than in smaller firms. The empirical evidence for Great-Britain shows that job quality is higher in small firms than in large firms (Forth *et al.*, 2006) which is in line with Holman's (2013) findings, and leads to another hypothesis that average job quality will be higher in large firms in France than in Great-Britain.

Firm size is also related to training policies in France. The principle of firm-funded training aims to provide better opportunities for career development (Paul, 1992; Joras, 2002). France differs from Great-Britain in placing legal obligations on larger firms (more than 10 employees) to spend at least 1 per cent of their wage bill on training (it was 1.6 per cent before 2014). British

[29] Great-Britain used to have an autonomous pay bargaining system, high trade union density and extensive collective bargaining coverage. The major structural crisis in the manufacturing industry eliminated employers' associations from collective bargaining during the Thatcher years. In 1993 the abolition of wage councils shifted the balance of power in wage setting in favour of local employers (Bosch, 2015).

[30] The voluntarist system implies that unions must recruit members in the workplace as a source of legitimacy and funding.

governments support training policies, but very few collective agreements exist on continuing training, and firms have to invest voluntarily in their workers with little regulation or subsidy (Greenhalgh, 1999; Ok and Tergeist, 2003). In France, at the national level, there is a highly developed system of social dialogue on vocational training involving compulsory negotiations on vocational training every five years and mechanisms for incorporating agreements into legislation (Méhaut, 2005).

The system in Great-Britain is considerably more voluntarist in nature and relies to a much greater extent on market forces and the actions of individual employers. Contrary to France, there are no minimum requirements for firms no specific rights for workers to ask for unpaid time off for training or study and no right for union representatives to have paid time off to promote training within the workplace. Although it might be surprising, the *European Working Conditions Survey* (Eurofound, 2012: 104) shows higher levels of training recorded for British employees. Nevertheless, training durations are known to be shorter in Great-Britain than in France (O'Mahony, 2012) which suggests that the amount of training received in both countries could in fact be fairly similar.

Employment regime and VoC theory would suggest that average job quality is likely to be lower in Great-Britain than in France. However, existing empirical papers do not provide such clear evidence. According to most of the existing empirical papers, job quality is higher in Great-Britain than in France (Davoine *et al.*, 2008; Munoz de Bustillo *et al.*, 2011; Leschke and Watt, 2008; Green *et al.*, 2013) and inequalities (as measured by the Gini coefficient) are no higher in Great-Britain than in France. The recent OECD report (OECD, 2014) includes France and Britain in the same group of countries with "average" levels of job quality. It emphasizes that similar overall scores might reflect different situations depending on the constitutive dimensions of job quality: in particular, Great-Britain does relatively well on earnings quality and quality of the working environment and relatively poorly with respect to labour market security, whereas the reverse is found for the French case. Davoine *et al.* (2008) also show that focusing on separate dimensions and introducing complementary indicators may alter countries' relative position: for instance, in the case of Great-Britain, training participation is high, but average expenditure and training duration are less favourable to workers. These observations highlight the importance of considering not only the overall score of job quality but also the separate dimensions of job quality.

Besides examining the aggregate picture of job quality in France and in Great-Britain, it is also necessary to understand whether there are differences between and within groups. The reason is that national institutional differences could be expected to influence and widen patterns

of differentiation. In particular, it is necessary to examine differences in job quality between socioeconomic or demographic groups. For example, job quality is expected to be higher in CMEs than in LMEs as employers in CMEs are expected to commit to long-term employment relations. However, the greater likelihood of career interruptions among female workers leads to a differentiation of job quality between men and women. Male workers obtain the greater share of primary jobs, and employers invest in their firm-specific skills, and protect that investment with job security. Women are concentrated in occupational labour markets (Gallie, 2007a; 2007b; Estevez-Abe, 2005). Gallie (2007) discusses gender divisions in inclusive and dualist regimes. In the inclusive regimes, for example in the Nordic countries, employment policies promote good working conditions across the population even if it is at the cost of an expanded public employment sector. One can expect gender discrimination to be more strongly penalized in societies with strong beliefs in gender equality (Weichselbaumer and Winter-Ebmer, 2007) and it is very likely that gender-egalitarian norms will be translated into policies that strengthen the workforce attachment of women in the labour market (Jaumotte, 2003). In 'dualist' regimes employees in the core segment are highly skilled with long-term employment prospects and a high degree of gender segmentation. Consequently, job quality scholars argue that male workers in 'dualist' regimes are more likely to hold jobs that require more training, higher job security and better opportunities for career advancement than women (Mühlau, 2011). Furthermore, there are some expectations that men's jobs will be more complex, with greater job autonomy and more opportunities to take part in the decision-making process (Mühlau, 2011). In order to investigate in greater detail, we will examine a number of different aspects of job quality in two different regimes and their relation to demographic and job characteristics.

It is also necessary to examine the variation in these aspects of job quality in firms of different sizes, as organized labour does not have the same role in large firms and in small firms. Therefore, we will examine empirically whether being in large firms will contribute to the persistence of traditional gaps between the sexes, between young and older workers, across education levels, among occupations and according to employment contract status in France and in Great-Britain.

In order to address these questions, we will use French and British linked employer-employee data where we will also take into account workplace characteristics. Most of the studies on job quality focus on the contribution of individual job characteristics. In the current chapter we examine the impact of both individual and workplace characteristics on the non-pecuniary aspects of job quality, paying special attention to size of firm. Workplace size might be expected to be a more important determinant of job quality, but an employer's ability to provide higher

wages and better working conditions depends on their monopoly power in the product market, and this is often proxied by firm size (Oi, 1988). Thus firm size rather than the workplace size was chosen for the analyses in this chapter. In the next section we will provide the descriptive statistics of non-pecuniary job quality variables.

3. Measurement of non-pecuniary job quality in the two surveys[31]

The literature on job quality accepts the multi-dimensional character of non-pecuniary job quality and most scholars agree that working conditions, job autonomy, job demands, job security, training, skill development, skills usage and work-life balance should be included (Davoine *et al*, 2008; Guillén and Dahl, 2009; Green *et al*, 2013, Muñoz de Bustillo*et al.*, 2011; Holman, 2013).

Using REPONSE and WERS surveys, eight dimensions of non-pecuniary job quality can be investigated, although caution should be exercised with regard to comparisons because the wording of the questions is different in the two surveys. Establishing equivalence for the indicators applied in multiple contexts is an ongoing challenge for comparative research (Hantrais, 2009). The basic problem is to know whether the concepts under investigation have equivalent meanings in different contexts. For example, Coutrot (1998) carries out comparative work between France and Great-Britain in order to examine to what extent institutional arrangements affect the behaviour of social actors at firm level. The author uses the REPONSE (1992) and WIRS (1990) surveys and argues that when comparing the incidence of 'simple' phenomena, such as 'union membership' or 'industrial action', one must take into account the institutional and societal contexts.

Given that the questions on job quality variables are not identical in the WERS and REPONSE surveys, we should be aware that the different wording is related to the institutional context where employees are employed. By taking into account these differences but knowing that they have the same function, we will use them to analyse the variation in non-pecuniary job quality in both countries.

As the two surveys ask somewhat different questions about certain dimensions of job quality, we followed Bryson and Freeman's (2013) methodology in order to construct an additive scale of job quality that offers the possibility of comparing responses between the two surveys in a relatively simple way. Combining items across various dimensions makes it possible to compare

[31] The measurement of job quality variables is similar to Bryson, Erhel and Salibekyan (*forthcoming).* The contribution of the current version is the analysis by firm size and the detailed description of the French and British institutional systems.

responses across surveys in a simple way; this should produce less classical measurement than a single item of overall job quality. We coded responses to questions relating to job quality as 0/1 variables where a code "1" assumes an employee has a 'high' or 'very high' work intensity, job insecurity, freedom to decide how to work, ability to develop skills, skills match, training received, manager-employer understanding and 'low' and 'very low' work-life balance. In a number of cases ordinal responses are elicited from the respondent, and we have collapsed them into 0 – 1 dummy variables. In order to obtain a measure of total job quality, we summed the items coded as 1 and performed factor analysis to check if there is a single index that we can call job quality. In both countries factor analysis identifies a single factor with an eigen value above 1 (2.23 in France and 1.92 in Great-Britain). In France this accounts for 96 per cent of the variance in the eight items and in Great-Britain for 89 per cent of the variance. All items load reasonably on the single factor with the exception of job demands: in both countries job demands are only strongly correlated with work-life balance. The alpha reliability coefficient for the non-pecuniary job quality scale is 0.60 in France and 0.51 in Britain. Afterwards, we used Z-scores to standardize scores from different groups of data, which makes it possible to compare raw scores from different bunches of data. The Data Appendix presents the correlation matrix, and the detailed description of the variables.

Afterwards, we will present descriptive information on the job quality variables used to build the composite measure and the mean values of the composite measures for France and Great-Britain. Table 1 also shows the mean value of the job quality index, which sums the scores for all eight items having reverse-coded identifying poor job quality.

In order to measure the perception of job insecurity in the REPONSE survey, employees were asked to estimate if the likelihood of losing their jobs in the next 12 months. This definition of job insecurity is the most commonly used concept in previous studies; it is known as cognitive job insecurity since employees are asked to estimate how secure their jobs are, or the probability that they will lose their job in the near future (for example, Böckerman, 2004; Clark and Pastel, 2009; Erlinghagen, 2008; OECD, 2004; Pacelli *et al.*, 2008). In the WERS survey, employees were asked to report their feelings about losing their job. In particular, they were asked whether they disagreed or strongly disagreed with the statement 'I feel my job is secure in this workplace'. It may be surprising that the proportion of employees who perceive job insecurity as high is quite low in both countries. However, the empirical evidence shows that even though there was widespread work restructuring in the EU, job insecurity increased neither in France nor in Great Britain (Eurofound, 2012b; Eurofound, 2014).

In the WERS survey two measures were used for work intensity. Firstly, employees were asked to report if they never had enough time to get their work done and secondly, if they had to work very hard. (These are similar to the two measures of work intensity used by Green *et al.* (2013) namely 'working at very high speed', and 'working to tight deadlines'.) In the REPONSE survey, employees were asked to report whether they had to hurry up during their jobs. Working under time pressure appears to be high in France (72 per cent). This is consistent with wider comparative surveys that show a high level of work intensity in France (OECD, 2014). Based on these items employees in France appear to be working more intensively than those in Great Britain. However, it is worth mention that Green *et al.* (2013), using identical survey questions in the *European Working Conditions Survey (2005-2010)*, find work intensity is similar in both countries. These differences could be related to the type of survey and the measurement of the variables.

Table 1 Employee Job Quality in France and Great Britain in 2011.

	Great Britain	*France*
Believes job is not secure	16 (0.37)	16 (0.37)
Working under time pressures	41 (0.49)	72 (0.45)
Free to decide how to work	85 (0.35)	67 (0.47)
Training received	52 (0.50)	46 (0.50)
Able to learn or develop skills	56 (0.50)	43 (0.50)
Manager pays attention/understands employees	55 (0.50)	51 (0.50)
Skills matched to job	44 (0.50)	63 (0.48)
Work adversely affects private life	29 (0.45)	36 (0.48)
Job quality additive index (0,8)	5 (1.76)	4 (1.96)

Notes: The specific question wording for each item is explained in the text and in the appendix. Table is weighted and based on responses from the following numbers of employees: 11,244 (REPONSE; 2011) and 11,581 (WERS; 2011). Job quality is based on 8-point item scale. The scales for job quality range from 0(low) to +8(high) in both surveys. 16 per cent of employees believe their job is not secure in both surveys. The average value of job quality in the British survey is 5, and in the French survey it is 4. Standard deviation in parentheses.

Base: All employees with at least one year's tenure, in private workplaces with 11 or more employees, and no missing data on job quality.

According to Table 1, British employees also seem to enjoy greater job autonomy than French counterparts. However, we should be cautious again as in the WERS survey job autonomy is related to the influence over how to work, while in the REPONSE survey it applies to the freedom to decide how to work. Different measures of job autonomy may imply that in France job autonomy is associated with the freedom to take a decision whereas in Great Britain it is associated with the influence employees can exert over their work.

Differences also appear when considering training: skill matching is higher in France according to workers' perceptions, but training received and the ability to develop skills appear higher in Great Britain. There are some differences in the survey questionnaires on this issue as well. In REPONSE employees had to report whether they participated in financed vocational training in the past three years whereas in the WERS survey employees reported participation in training in the past 12 months and how many days training had taken place. However the gap between France and Great Britain confirms analyses by Davoine *et al.* (2008), which show that the training dimension contributes positively to the Great Britain's in terms of overall job quality. Finally, the proportion of workers declaring that work adversely affects their private life is higher in France.

The mean score of overall job quality is 5 in Great Britain and 4 in France. This result is interesting as one expects France, as an example of CME, to have a higher level of job quality than Great Britain. On the one hand, the difference may be partly related to the measures of the individual job quality which are not identical. On the other hand, the empirical evidence shows that even when using identical job quality items for Great Britain and France job quality is higher in Britain than in France.[32] Thus it is necessary to examine separate dimensions of job quality because the overall scores might conceal differences in the constitutive dimensions of job quality.

3.1 Firm size and job quality

As the current chapter focuses in particular on size of firm**,** the descriptive statistics are also presented for large firms with more than 1000 employees (Table 2) and small firms with fewer than 100 employees (Table 3). However, we have also checked the results for firms with more than 250 or 500 employees, and for firms with less than 50 employees. The results were similar in the both cases.

The proportion of employees who report high levels of perceived job insecurity is 7 points higher in large firms than in smaller ones in Great Britain. In France, the situation is different. The proportion of employees who perceive their job insecurity to be high is 4 points lower in large firms than in small firms. Working under time pressure appears to be high in both large and small firms in France (73 per cent in large firms and 72 per cent in small firms). However, in Great Britain, employees in large firms perceive work intensity to be higher in large firms than in small ones (41 per cent in large firms and 38 per cent in small firms). Similarly, in Great Britain employees perceive their lower work-life balance is 4 points lower in large firms than in small

[32] For example, Green *et al.* (2013) use the *European Working Conditions Survey* and find that the mean score of job quality is higher in Great Britain than in France.

ones, whereas the proportion of employees who perceive their work-life balance as poor is similar in large and small firms in France (38 per cent in both cases).

In both countries employees seem to enjoy greater job autonomy in small firms. In small firms in Great Britain, the relation between managers and employees appears to be good in small firms. Sixty-two per cent of employees reported that managers had paid attention to them, compared with 50 per cent in large firms. In France the difference is very small (51 per cent in large firms compared with 49 per cent in small firms). Skill development opportunities seem to be higher in small firms in Great Britain than in large firms. In small firms in Great Britain, skill development opportunities were 9 points higher in small firms than in large firms, whereas in France skill development opportunities are the same in large and in small firms (43 per cent in both cases). Furthermore, it is important to note that in both countries skill matching to a job appears to be high in small firms in both countries, whereas training received is higher in large firms in both countries.

Turning to the average scores of job quality, the score is higher in Great Britain than in France in both large and in small firms. Across all sizes of firm, the average score for job quality is also higher in Great Britain than in France. This suggests that the average scores for job quality are not different in the three subsamples.

However, the scores for large and small firms do start to differ when the subcomponents of job quality are examined. The descriptive statistics suggest that there are no differences between large and small firms in France with regard to work-life balance, work intensity, manager-employee relations, and skill development opportunities. However, the proportion of employees reporting low job insecurity and participation in training is higher in large firms in France. The fact that job insecurity and training are particularly higher in large firms in France is in line with the expectations related to the French context. In large firms in France employees have more training opportunities and organized labour is better able to influence job insecurity in large firms than in small firms.

In Great Britain, in contrast, examination of the separate dimensions of job quality shows that the proportion of employees who report higher perceived job quality is greater in smaller firms than in larger ones. This result is in line with finding in the existing literature that job quality is higher in smaller firms than in large firms in Great Britain (Forth *et al.*, 2006).

Table 2 Perceived job quality in large firms in France and in Great Britain in 2011

	Great Britain	*France*
Believes job is not secure	19 (0.37)	14 (0.37)
Work adversely affects private life	30 (0.45)	38 (0.48)
Free to decide how to work	82 (0.35)	64 (0.47)
Working under time pressures	41 (0.49)	73 (0.45)
Manager pays attention/understands employees	50 (0.50)	51 (0.50)
Able to learn or develop skills	51 (0.50)	43 (0.50)
Skills matched to job	42 (0.50)	60 (0.48)
Training received	52 (0.50)	51 (0.50)
Job quality additive index (0,8)	5 (1.76)	4 (1.96)

Notes: The specific question wording for each item is explained in the text and in the appendix. Standard deviation in parentheses.

Table is weighted and based on responses from the following numbers of employees: 2,195 (REPONSE; 2011) and 3,160 (WERS; 2011). Job quality is based on an 8-point item scale. The scales for job quality range from 0(low) to +8(high) in both surveys. Job quality is based on an 8-point item scale. The scales for job quality range from 0(low) to +8(high) in both surveys.

Base: All employees with at least one year tenure, in private workplaces in firms with 1000 or more employees, with no missing data on job quality.

Table 3 Employee Job quality in small firms in France and in Great Britain in 2011

	Great Britain	*France*
Believes job is not secure	12 (0.33)	18 (0.39)
Work adversely affects private life	26 (0.44)	38 (0.48)
Free to decide how to work	90 (0.30)	70 (0.46)
Working under time pressures	38 (0.49)	72 (0.45)
Manager pays attention/understands employees	62 (0.49)	49 (0.50)
Able to learn or develop skills	60 (0.50)	43 (0.50)
Skills matched to job	46 (0.50)	68 (0.47)
Training received	48 (0.50)	40 (0.49)
Job quality additive index (0,8)	5 (0.91)	4 (1.04)

Notes: The specific question wording for each item is explained in the text and in the appendix. Standard deviation in parentheses. Table is weighted and based on responses from the following numbers of employees: 3,840 (REPONSE; 2011) and 2,831 (WERS; 2011). Job quality is based on an 8-point item scale. The scales for job quality range from 0(low) to +8(high) in both surveys. Job quality is based on an 8-point item scale. The scales for job quality range from 0(low) to +8(high) in both surveys.

Base: All employees with at least one year tenure, in private workplaces in firms with less than 100 employees, with no missing data on job quality.

As the current chapter pays special attention to size of firm, Table 4 presents the cross-table for the average score of job quality by size of firm. Table 4 shows that the mean value of job quality is high in small firms with fewer than 999 employees in Great Britain. Furthermore, the average score for job quality is smaller in larger firms. In comparison to Great Britain, the average score for job quality is similar in both large and medium-sized and small firms. This descriptive

table shows that there is uniformity in France, whereas in Great Britain there are more differences between large and small firms.

Holman (2013) expects the uniformity to occur within the market employment regime rather than within the dualist regime, as organized labour should have more power in large firms within dualist regimes. However, as organized labour does not have the power to influence labour market regulation in the market employment regime, there should be greater uniformity. The fact that the relation between the firm size and job quality tends in the opposite direction could be related to the composite measure of job quality, which shows in Tables 1, 2 and 3 that job quality is higher in Great Britain than in France. These results highlight the importance of examining not only the composite measure of job quality but also the separate dimensions of job quality in order to understand which dimensions particularly contribute to the difference between the two countries.

Although the average score for job quality is higher in Great Britain than in France, it is necessary to examine whether there are inequalities between socio-economic/demographic groups. In the next section, therefore, we will examine whether there are any inequalities with regard to job quality in the two countries.

Table 4. Average job quality by size of firm

	Great Britain	*France*
Fewer than 100	5	4
100-999	5	4
1000-9,999	4	4
10,000 and more	4	4

Notes: The mean value for job quality in firms with fewer than 100 employees in Great Britain is 5 and 4 in France.

Base: All employees with at least one year's tenure, in private workplaces with less than 11 employees, with no missing data on job quality

3.2 Job Quality Gaps

In this section we will examine the aggregate picture for job quality between countries and socio-economic/demographic groups. Appendix 10 presents the averages of the job quality indices by socio-economic groups for firms of all sizes. For this analysis we examined individual and job characteristics such as gender, age, length of tenure, occupation and type of contract. The descriptive tables for large and small firms can be found in Appendices 11 and 12.

Our expectation is that in 'dualist' regimes such as France there is a high degree of gender segmentation as we discussed in the previous section. The evidence shows that male workers in 'dualist' regimes are more likely than women to hold jobs that require more training and have

higher job security and better possibilities for career advancement (Mühlau, 2011). In the REPONSE survey job quality appears to be higher among male workers than among female workers. In the full sample job quality is higher among male workers by 0.1 of a point whereas in large firms job quality is higher by 0.20 points. The descriptive information on the difference in the mean values for job quality between men and women in large firms in France is in line with our expectations. In the WERS survey job quality appears to be higher among female workers than among male workers in Great-Britain in both the full sample and large firms.

The mean value of job quality is higher among older workers in France than among younger workers. The pattern is the same in large firms. This is in line with the previous research which argues that in dualistic regimes young workers are usually in the peripheral segment (Golsch, 2003). In Great Britain, young employees have higher job quality than older ones in the full sample. However, when we restrict the sample to large firms, there are no major differences in job quality between young and old workers. This may suggest that there are no inequalities between old and young workers in large firms.

Examination of the average scores for job quality among employees in different tenure groups shows that the mean score is higher among employees with more than 5 years' tenure in large firms in France, whereas in Great Britain the average score for job quality is lower among employees with less than 5 years' tenure. When it comes to occupation, in both France and in Great Britain the average value for job quality is higher among managers and professionals than among employees in other occupational groups.

These descriptive results suggest that there are some differences with regard to job quality level in France and in Britain. There are some inequalities among socio-economic groups in both countries and there are also some differences with regard to firm size. This strengthens our expectation that within France, as a dualist regime, it is likely there will be greater inequalities with regard to gender, age and type of contract.

In the next section we will discuss the empirical strategy that we used to perform the multivariate analyses of non-pecuniary job quality.

4. Empirical strategy

In this section we will discuss the steps that we followed to perform multivariate analyses of non-pecuniary job quality. For these analyses, we transformed the additive scale of job quality[33] (0,8) into the z score equivalents with a mean of zero and standard deviation of 1, which makes it easier to interpret the quantitative association between various individual and workplace characteristics and job quality across the two countries.

The existing literature on job quality shows that job quality varies with the individual and job characteristics. Given the hierarchical structure of the data, the appropriate method would be to perform multilevel analysis. In order to be able to perform multilevel analysis, it is necessary to have enough observations within each workplace, although authors differ as to the exact number. Most commonly, it is argued that within each unit the number of observations should be 5 (for instance, Kreft, 1996). As in the WERS survey there are many workplaces that have 1 or 2 employees, we were not able to perform a multilevel analysis. We therefore estimated Ordinary Least Squares models in order to capture the variance in job quality across employees in workplaces with different characteristics. All models are survey-weighted in order to account for the probability of employee and workplace selection into the sample. These weightings also make adjustments for differential non-response on observable clustered within workplaces. Where an observation is missing on an independent variable it is identified as a '1' denoting missing on dummy variables.

$$Y_{ij} = \beta_0 + \beta_1(X_{1ij}) + \beta_2(\varepsilon_{ijw}) + \ldots + \beta n(X_{nij}) + \gamma_1(Z_{1ij}) + \gamma_n(Z_{nij}) + \theta_{ij} \qquad (1)$$

where Y_{ij} is the dependent variable job quality, X_{nij} represents demographics and job characteristics such as gender, age (three categories), education (seven categories), union membership, single digit occupation (ten categories), tenure (four categories), type of contract (three categories) and working hours (six categories), ε_{ijw}[34] is the wage residual that intends to capture the wage premium (penalty) a worker received conditional on his/her human capital attributes. It thus captures the pecuniary aspect of job quality and enables us to test for compensating differentials. Therefore, to produce the residuals we model log hourly wages for the whole sample of REPONSE and WERS as the sum of the linear function of human capital containing gender, age, education, tenure and occupation (2). Nevertheless, one should be aware of the fact that ε_i captures workplace characteristics and unobserved individual characteristics.

[33] The construction of job quality measure is similar to Bryson, Erhel, Salibekyan (forthcoming).

[34] The construction of the residual is similar to Bryson, Erhel, Salibekyan (forthcoming). However, the wage equation in this chapter takes into account employee tenure.

$$\log(\text{hourly pay})_i = \beta_0 + \beta_1(\text{gender})_i + \beta_2(\text{age})_i + \beta_3(\text{education})_i + \beta_4(\text{tenure})_i + \beta_5(\text{three digit occupation}) + \varepsilon_i \quad (2)$$

Finally, Z_{nij} represents workplace characteristics and workforce composition such as firm size (four categories), single-digit industry (twelve categories), capital city location, workplace age (five categories), family ownership (25 per cent threshold, three categories), foreign ownership (two categories), gender of employer, and workforce composition: share of female workers in percentage, share of employees under 25 in percentage, share of employees aged 50 and over in percentage, share of high-skilled white collar, share of medium-skilled white collar, share of low-skilled white collar, share of blue-collar workers.

In the second part of the analysis we apply the equation (1) to the subsamples of large and small firms in order to examine the relation between the wage residual and non-pecuniary aspects of job quality. We tested the models with different samples, and for the large firms we chose the sample with more than 1000 employees. The robustness checks showed the results were not different with more than 500 employees. Furthermore, for the subsample of small firms we chose firms with fewer than 100 employees for both countries.

Finally, in the third part of the analysis we use the sub-dimensions of non-pecuniary job quality and examine correlations between the wage residual and the non-pecuniary aspects of job quality in both large and small firms. All the multivariate estimates of non-pecuniary job quality are based on linear probability models. Let the probability of high or low job quality be represented by

$$Y_{ij} = \beta_1(\varepsilon_{ijw}) + \beta(X_{ij}) + \gamma_n(Z_{ij}) + u_{ij}, \quad (3)$$

where Y_{ij} is a 0-1 dummy variable denoting whether individual *i* in a workplace *j* has a high job demand, job insecurity, job autonomy, employee-employer understanding, skills development opportunities and training, skill matching, and low work-life balance, X_{ij} is a vector of variables representing the demographics and job characteristics mentioned above, Z_{nij} represents workplace characteristics and workforce composition and u_{ij} is an error term. The estimated predictions $\beta(X_{ij})$ and $\gamma_n(Z_{ij})$ are interpreted as probabilities that individual *i* in a workplace *j* will have a high or low non-pecuniary job quality.

Two limitations of this technique should be discussed. First, the values of $\beta(X_{ij})$ and $\gamma_n(Z_{ij})$ cannot be interpreted as a predicted probability. Nevertheless, the linear probability model gives

results close to the logit or probit model, which transforms the probability of avoiding the problem (Green, 1992). Bryson and Gomez (2005) confirm that the linear probability models produce the same results as logit models and we chose to use the linear probability model because logistic regressions can be problematic when we compare coefficients from one regression to another (Ai and Norton, 2003; Mood, 2010).

The second limitation is that the model is inclined to heteroskedasticity (Kennedy, 1998: 243). We employ the Huber-White robust variance estimator, which produces consistent standard errors in the presence of heteroskedasticity.

5. Results

In this section we turn to the multivariate analyses of non-pecuniary job quality. Table 5.1 and Table 5.2 report the full set of estimation results based on the full sample where there are firms of all sizes. Table 5.1 reports individual job characteristics and Table 5.2 reports workplace characteristics.

Tables 5.1 and 5.2 show that the OLS models account for 12 per cent of the variance in non-pecuniary aspects of job quality in France and 7 per cent in Great Britain. We hypothesized that in dualist regimes, job quality would be higher in larger firms than in smaller firms. This was examined by testing the impact of firm size on job quality. Table 5.2 shows that in France job quality is higher in large firms with more than 100 employees than in firms with fewer than 100 employees. The coefficient of job quality has the highest value for firms with between 1,000 and 9,999 employees in comparison to the coefficient for firms with between 100 and 999 employees and for firms with more than 10,000 employees.

Turning to Great Britain, job quality is lower in larger firms that have more than 1,000 employees than in firms with fewer than 100 employees. The coefficient is slightly higher in firms with between 1,000 and 9,999 employees than in firms with more than 10,000 employees. The results for Great Britain, a market regime country, show that job quality is lower in larger firms than in smaller firms, which is the opposite of the corresponding finding for dualist regimes. It is also in line with Forth *et al.*'s finding (2006) that employee job quality in Great Britain is higher in small firms than in large firms. Thus our hypothesis that in dualist regimes the mean value of job quality will be higher in larger firms than in smaller firms is confirmed.

The next interesting finding is the positive link between non-pecuniary job quality and wage residual. As we explained in the previous section, the wage residual approximates the premium or penalty paid to an employee by his/her employer relative to what that employee might have obtained in the market given his or her human capital. Thus the positive association between

pecuniary and non-pecuniary aspects of job quality may imply that the wage residual is complementary to one's job quality. Furthermore, as in earlier studies (Brown, 1980), we do not find any support in the current chapter for compensating wage differentials, either in France or in Great Britain.

Turning to individual characteristics, being male is found to have a positive and statistically significant association with overall job quality in France, whereas there is no significant and statistically significant association found with overall job quality in Great Britain. This finding makes Britain appear to be an exception, as previous studies have shown that the gender differential observed in most countries is in favour of men (Esser and Olsen, 2011; Stier and Yaish, 2014; Erhel and Guergoat-Larivière, 2011; Glass 1990; Reskin and Roos, 1990).

Being aged 16-30 is found to be positively and statistically significantly linked with overall job quality vis-à-vis the reference category of employees aged 31-49 years. There is a different relationship between non-pecuniary job quality and employees' education levels in Great Britain to that found in France. In France, non-pecuniary job quality is positively correlated with higher levels of education whereas in Great Britain the relationship tends in the opposite direction: higher educated employees report low job quality. This may be explained by a skills mismatch where the expectations of better educated workers do not match the available jobs in the labour market. This result will be discussed greater details below, when we will examine the regression results for the separate dimensions of job quality.

In both countries, being a union member is negatively and statistically significantly associated with overall job quality. This finding may appear surprising as in both countries employees have the freedom to join a union and 'choose' to express their preferences for bargaining and representation. However, Bryson and Freeman (2013) explain this by the fact that poor working conditions strengthen the desire for union representation: consequently, it may not be surprising to a find a negative association between union membership and non-pecuniary job quality. The negative association may also be explained by the fact that unionized employees are more likely to be dissatisfied in general, which may explain their negative attitude towards their colleagues when the quality of certain jobs is poor (Bryson *et al.*, 2011).

On the job characteristics, the estimated coefficients reveal a gradual decline in overall job quality in both countries as one moves down the occupational hierarchy. Employees in manual occupations have lower job quality than those in managerial and professional positions. Working more than 41 hours per week is found to be negatively and statistically significantly associated with overall job quality. The negative coefficients appear to be quite high in the British case.

While examining workplace characteristics, it is worth mentioning that job quality appears to be higher in older workplaces in Great Britain. This is not the case in France. The coefficients are positive and significantly high in Great Britain, whereas in France, the coefficients appear low and non-significant. Furthermore, job quality appears to be different in the capital cities of France and Great Britain. There is a job quality penalty attached to working in Paris but not in London. This effect may reflect some unobserved characteristics of work in the capital city – like higher commuting times or generally harder conditions for work-family reconciliation.

Table 5.1 Overall job quality in France and in Great Britain (individual job characteristics)

	France		*Great Britain*	
Constant	0.05	(0.17)	0.52 ***	(0.14)
Gender: Male (*ref: female)*	0.09**	(0.03)	-0.02	(0.04)
Age: 16-30 (*ref: 31-49)*	0.12***	(0.04)	0.11***	(0.04)
50+	0.04	(0.12)	0.03	(0.06)
Education: Level 2 (*ref: Level 1)*	0.05	(0.09)	-0.27 ***	(0.06)
Level 3	0.09*	(0.05)	-0.24 ***	(0.06)
Level5B	0.18***	(0.06)	-0.24 ***	(0.08)
Level 5A short	0.05	(0.07)	-0.37 ***	(0.06)
Level 5A long	0.16**	(0.08)	-0.26 ***	(0.08)
Union member (*ref: not a union member)*	-0.23***	(0.05)	-0.15***	(0.06)
Wage residual	0.56 ***	(0.06)	0.08 **	(0.03)
Tenure: Less than 5 years(*ref: more than 10)*	-0.10 **	(0.04)	-0.00	(0.05)
5 to 10 years	0.01	(0.04)	0.00	(0.05)
Hours: 0-29 hours per week (*ref: 36-40)*	-0.03	(0.06)	0.02	(0.05)
30-35	-0.03	(0.04)	-0.03	(0.06)
41-29	-0.10 **	(0.04)	-0.19 ***	(0.04)
50+	-0.25***	(0.05)	-0.29 ***	(0.06)
Contract: Temporary (*ref: permanent)*	0.15	(0.25)	-0.17	(0.14)
Fixed	0.03	(0.08)	0.04	(0.09)
Occupation: Professionals (*ref: managers)*	-0.04	(0.06)	-0.12**	(0.06)
Technicians	-0.25***	(0.06)	-0.16***	(0.05)
Clerks	-0.39***	(0.07)	-0.23***	(0.07)
Service and sales workers	-0.60***	(0.08)	-0.25***	(0.06)
Skilled agriculture/fishery	-0.58	(0.4)	-0.27 **	(0.13)
Craft workers	-0.43***	(0.08)	-0.27***	(0.07)
Plant and machinery	-0.69***	(0.07)	-0.44***	(0.10)
Elementary	-0.56***	(0.09)	-0.26***	(0.07)
R-squared	0.12		0.07	
Observations	6,859		7,426	
Number of firms	2860		906	

Notes: Weighted OLS regressions controlling for workforce composition and workplace characteristics. Dummies for missing observations are not presented. Standard errors in parentheses.

Base: REPONSE (2011); WERS (2011). All workplaces with 11 and more employees with 12 months tenure in the private sector. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1

Table 5.2 Job quality in France and Great Britain (workplace characteristics)

	France		*Great Britain*	
Constant	0.05	(0.17)	0.52 ***	(0.14)
Firm size: 100-999 (*ref: less than 100)*	0.16 ***	(0.04)	0.05	(0.05)
1,000-9,999	0.19 ***	(0.05)	-0.14 **	(0.06)
10,000 and more	0.11 *	(0.06)	-0.13 **	(0.06)
Union recognition: yes (*ref: no)*	-0.21 ***	(0.04)	0.012	(0.05)
Industry: Energy (*ref: manufacturing)*	0.49 ***	(0.19)	0.32 ***	(0.11)
Construction	0.26 ***	(0.07)	0.22 ***	(0.08)
Wholesale and retail	0.02	(0.06)	-0.01	(0.07)
Hotels and restaurants	0.09	(0.14)	-0.06	(0.09)
Transport and communication	0.09 *	(0.06)	-0.03	(0.10)
Financial services	-0.01	(0.09)	0.16 *	(0.09)
Other business	0.04	(0.06)	0.08	(0.06)
Education	-0.31	(0.24)	0.09	(0.09)
Health care	0.19 ***	(0.07)	0.28 ***	(0.08)
Other community	0.14	(0.09)	0.07	(0.09)
Capital city yes	-0.08 **	(0.04)	0.03	(0.05)
Workplace age: 5-9 years (*ref: less than 5)*	-0.06	(0.13)	0.19 *	(0.11)
10 to 19 years	-0.04	(0.13)	0.19 *	(0.10)
20 to 49 years	0.02	(0.12)	0.20 **	(0.09)
50+ years	0.02	(0.12)	0.18 *	(0.11)
Ownership: Family owns 25% of equity	-0.12 ***	(0.04)	-0.05	(0.04)
Foreign ownership	-0.08	(0.05)	0.04	(0.05)
R-squared	0.12		0.07	
Observations	6,859		7,426	
Number of firms	2860		906	

Notes: Weighted OLS regressions controlling for workforce composition and individual job characteristics. Dummies for missing observations are not presented. Standard errors in parentheses.

Base: REPONSE (2011); WERS (2011). All workplaces with 11 and more employees with 12 months tenure. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Non-pecuniary job quality and the wage residual in large firms in comparison with firms of all sizes

Furthermore, we examine whether the relation between non-pecuniary job quality and the wage residual is similar in large firms and in small firms (Appendix 13). Therefore, we turn to the multivariate analysis of non-pecuniary job quality in large firms where we restricted the sample of large firms with more than 1,000 employees[35], and the sample of small firms with less than 100 employees.

In France, both in large and small firms there is a positive and statistically significant association between the wage residual and non-pecuniary aspects of job quality. Therefore, our results may suggest that in France the wage residual can be considered as complementary part of

[35] As for the descriptive analysis, the robustness analyses showed the same results for firms with more than 500 employees. Furthermore, separate analyses were performed for firms with more than 1,000 employees and the results were similar.

one's non-pecuniary job quality both in large and in small firms. The positive association between the pecuniary and non-pecuniary aspects of job quality may suggest that there is no support for compensating wage differentials in France, either in large or small firms. The results are similar for France in firms of all sizes (Table 5.1).

In large British firms, the association between the wage residual and the non-pecuniary aspects of job quality is positive and significant but at the 9 per cent level (while it is 1 per cent in France), which shows that the relation is weaker than in France. Furthermore, contrary to small firms in France, there is no statistically significant association found between the wage residual and non-pecuniary job quality in small firms in Great Britain. This finding may suggest that there is substantial heterogeneity in the British labour market with regard to wage profiles, and it is in line with the empirical evidence from Forth *et al.* (forthcoming) that wage profiles are more dispersed in Great Britain than in France and that there is substantial heterogeneity in the approach taken by workplaces in the British labour market.

Furthermore, these results may be in line with the VoC theory that in CMEs the wage residual may be expected to be part of non-pecuniary job quality, whereas this may not be the case in LMEs.

To go further and investigate this relation between the wage residual and non-pecuniary job quality, we decomposed job quality by its sub-components. In the next section we will discuss the main differences between the different sub-components of job quality and the wage residual in small and large firms in both countries. Complementary analyses were also done in firms of all sizes in order to compare the effects in small and large firms. These results are presented in A14.

Dimensions of job quality and the wage residual

We examined the following eight dimensions of job quality: job demand, job insecurity, job autonomy, manager-employee relation, skills development opportunities, training received, skills match and work-life balance. The findings for large firms are presented in tables A15.1 and A15.2, and for small firms in tables A16.1 and A16.2.

The results for France and for Great Britain reveal that there is no significant association found between the wage residual and job demand either in large firms or in small firms. The results are similar with regard to job insecurity. In both countries the wage residual is negatively and statistically significantly associated with job insecurity in both large and in small firms. These findings may suggest that there is no support for the contention that pay is compensating employees for high job demands or low job insecurity.

Turning to job autonomy, in France the wage residual appears to be the complementary part of job autonomy in both large and small firms. In Great Britain, the effect appears to be highly significant only in large firms. No significant relation is found to be in small firms.

The wage residual appears to be negatively and statistically significantly associated with low work-life balance in both large and small firms in France. In Great Britain, in contrast, the correlation is positive and statistically significant in large firms, which could provide some evidence in support of compensating differential theory, where employees are paid above their normal market value in order to accept jobs with low work-life balance (Rosen, 1986). However, the relation between the wage residual and low work-life balance is not significant in small firms with fewer than 100 employees. This suggests that there is no evidence for compensating differential theory in small firms in Great Britain.

In France in both large and small firms, the wage residual is a complementary part of skill development opportunities whereas in Great Britain the wage residual appears to be a complementary part of skill development opportunities in large firms. The relation is not significant in small firms.

In both countries, the wage residual is a complementary part of training in both large and small firms in France and Great Britain alike. In Great Britain, there is no significant association between the wage residual and skills match to a job, whereas in France there is a positive and significant association between the wage residual and the skills match to a job in both large and small firms.

Overall, the findings on the relation between the wage residual and the non-pecuniary aspects of job quality suggest that the relation is similar in both large and in small firms in France. This suggests that in France the wage residual is a complementary part of one's job quality. However, in Great Britain the relation is not always the same, either in large or in small firms. These results may suggest that the relation between the wage residual and job quality is weaker in Great Britain than in France.

Furthermore, we will discuss the impact of other individual and workplace characteristics on the separate dimensions of job quality. In the previous section we argued that there is a skills mismatch between available jobs in the British labour market and the degree of academic qualification that employees attain. The results confirm that in both large and small firms in Great Britain employees perceive that they underutilize their skills. Having higher levels of academic qualifications is found to have a negative and statistically significant association with job autonomy and skills match to job. In France, contrary to Great Britain, there is no significant

association found between the level of education and skills mismatch either in large or small firms.

The results in A15.1 show that being a male employee in large firms in France is found to be positively and statistically significantly associated with employer-employee understanding and skill development opportunities, and skills' match to a job. The coefficients are not significant in small firms. This result is in line with the expectation that male workers in 'dualist' regimes are more likely to hold jobs with greater job autonomy and to have more opportunities for career advancement than women (Mühlau, 2011).

The results of the estimations highlight the effect of workplace age on the various dimensions of job quality in large firms in Great Britain. In large firms in Great Britain, job insecurity and job demands are lower in workplaces that are older than 5 years than in those that have been operating for less than 5 years. Similarly, work-life balance, manager-employee relations, skill development opportunities, skills match to a job and training are also higher in older workplaces than in younger workplaces. In France, workplace age does not have any significant impact on various dimensions of job quality either in large or small firms.

6. Conclusion

In this chapter, we have examined the variation in non-pecuniary job quality in France and in Great Britain by using data linking employees to the workplaces employing them. Unlike previous papers that have focused on the employer size effect on wages or on job satisfaction, this chapter contributed to the literature on institutional systems in France and Great Britain by providing new evidence on the relation between size of a firm and the non-pecuniary aspects of job quality. The current chapter shows that in dualistic regimes non-pecuniary job quality is higher in larger firms than in small firms whereas in market employment regimes job quality is higher in smaller firms than in larger ones. Finally, the chapter examined the relation between the pecuniary and non-pecuniary aspects of job quality and showed there is no support for the contention that the wage residual compensates employees for poorer job quality in both countries.

The findings of the current chapter suggest that employment regime theory correctly identifies the differences between France and Great Britain in respect of the nature of their employment and industrial relations policies and the relative capacity of organized labour. The results indicate that, even if the wording of the questions differ in the two surveys, the national institutional regimes are still sufficiently different and influential to produce cross-national variations in the non-pecuniary aspects of job quality. Furthermore, our findings provide more

evidence in support of the view that the French labour market exhibits some degree of 'dualism', with women in particular suffering from lower job quality and employees in the core segment tending to be highly skilled male employees with long-term employment prospects and more opportunities to participate in decision-making process. The chapter's findings also suggest a more hierarchical occupational structure dominates in France.

A further contribution is that the study uses the linked employee-employer data to examine the relation between the pecuniary and non-pecuniary aspects of job quality in both large and small firms. The results show that the wage residual is a complementary part of job quality in both large and small firms in France. In Greta Britain, on the other hand, the relation between the wage residual and non-pecuniary job quality is weak in large firms, and the effect is not significant in small firms. These results may suggest that the wage residual may be a complementary part of job quality in coordinated market economies such as France whereas the relation is not straightforward in liberal market economies such as Britain. Finally, the results show that the wage residual is a complementary part of o job quality in firms of all sizes in both France and Great Britain. These results are based on the post-crisis context where the uncertainty in the macro-environment with regard to labour market conditions was high and firms applied different workplace adjustment practices in order to remain competitive. This is an important finding from a policy perspective since policy analyses cannot assume that market forces will compensate employees for adverse working conditions.

Despite the strengths of this study, one potential limitation is that the job quality variables used in the two surveys are not directly comparable. This restricts our opportunities to perform comparisons between the two countries. The current chapter would also benefit from temporal analyses; however, the data do not allow us to follow employees across the years and measure the change in non-pecuniary job quality for the same workers. Having panel data available at the employee and employer level would have enabled us to perform causal analyses between 2005 and 2011 and examine how job quality evolved in different institutional systems in the context of economic crisis.

In conclusion, the evidence from this chapter indicates that 'institutions still matter', and that the institutions, that have a primary influence on job quality, are a country's employment and industrial relations policies and the capacity of organized labour to influence decision-making in firms. Further research is needed on linked employee-employer data in order to examine the impact of workplace policies on job quality in different institutional contexts. Institutional scholars argue that the extent and nature of poor working conditions are the outcome of policies within political constraints (Gautié and Schmitt, 2010). Consequently, it is necessary to examine

how different job quality is in another institutional context where the state follows egalitarian policies, and organized labour does not differentiate between the core and peripheral workers. The analyses could be extended to Scandinavian countries which have become recognized for their egalitarian ambitions, generous welfare provision, highly organized labour markets and coordinated market relations (Benner, 2003).

Further research is also needed in order to examine if job quality has a positive impact on firms' performance. Although it might be difficult to establish a causal link, studying correlations would contribute to a first micro-level approach to the links between economic performances and job quality. The motivation for doing so is the debate between advocates of the notion that there is value in wellbeing per se and those who argue that it is costly for firms to invest in worker wellbeing, so that one must be sure that this does not come at a cost to their performance (Böckerman *et al.,* 2012; van Wanrooy *et al.*, 2013). This is an important issue in the context of crisis as many workplaces have seen reductions in their operational budgets. These changes are likely to have an impact on work processes or organizational methods as firms strive to cut costs.

Appendices

A1. Job Quality variables in Britain

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My job requires I work very hard N=11,460	33	49	14	3	0
I never seem to have enough time to get my work done N=11,333	14	27	31	25	3
I feel my job is secure in this workplace N=11,147	17	46	21	12	5
I often find it difficult to fulfill my commitments outside of work because of the amount of time I spend on my job N=11,506	9	20	25	37	9
I often find it difficult to do my job properly because of my commitments outside of work N=11,469	1	3	17	55	24
Managers are sincere in attempting to understand employees' views N=11,370	11	43	24	15	6
Managers encourage to develop their skills N=11,351	13	42	26	13	6

Notes: Weighted frequencies in cells in percentages. 33 per cent of employees reported that they strongly agreed that their job required them to work very hard.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: WERS (2011) survey.

A2. Apart from health and safety training, how much training have you had during the last 12 months, either paid or organized by your employer?

None	34
Less than 1 day	13
1 to less than 2 days	16
2 to less than 5 days	20
5 to less than 10 days	10
10 days and more	6
N=11,468	

Notes: Weighted frequencies in cells in percentages. 34 per cent of employees reported that they had no training in the last 12 months.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: WERS (2011) survey.

A3. How well do the work skills you personally have match the skills you need to do your present job?

Much higher	20
A bit higher	32
About the same	44
A bit lower	4
Much lower	1
N=11,489	

Notes: Weighted frequencies in cells in percentages. 20 per cent of employees reported that their skills are much higher than the present job they had.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: WERS (2011) survey.

A4. In general, how much influence do you have over how to do your work?

A lot	54
Some	31
A little	10
None	5
N=11,446	

Notes: Weighted frequencies in cells in percentages. 54 per cent of employees reported that they had a lot of influence over their work.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: WERS (2011) survey.

A5. Job Quality variables in the REPONSE survey

	Always	Often	Sometimes	Never
Does your work allow you to organize your private life satisfactorily? N=11,179	18	45	30	6
Are you free to decide how to do your work? N=11,161	20	47	23	10
In your work, are you fully able to use your skills? N=11,132	19	45	30	7
Does your work enable you to learn new things? N=11,147	11	32	45	12
Does your line manager pay attention to what you say? N=11,115	15	36	39	10
In your work, is there any time pressure? N=11,160	31	41	25	2

Notes: Weighted frequencies in cells in percentages. Figures are based on 11,244 employees in 2011. 18 per cent of employees reported that work always allowed them to organize private life satisfactorily.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: DARES, REPONSE (2011) survey.

A6. Job Quality variables in the REPONSE survey

During the last three years, have you undertaken any vocational training financed by your employer? (REPONSE survey)	
Yes	46
No	54
N=11,002	
Do you think that you need additional training in order to carry out your work?	
Yes	50
No	50
N=10,278	10,278

Notes: Weighted frequencies in cells in percentages. 46 per cent of employees reported that they had vocational training in the past three years.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: REPONSE (2011) survey.

A7. Job Quality variables in the REPONSE survey

During the next 12 months, what is the likelihood of losing the job?	
Very high	5
High	11
Low	47
Nil	37
N=8,593	

Notes: Weighted frequencies in cells in percentages. 5 per cent of employees reported that the likelihood was very high to lose the job.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality.

Source: REPONSE (2011) survey.

A8: Correlation matrix of job quality measures in the REPONSE survey

	1	2	3	4	5	6	7	8
1. Free to decide how to work	1							
	.00							
2. Believes job is not secure	-0.16	1.00						
3. Work adversely affects private life	-0.20	0.13	1.00					
4. Able to learn or develop skills	0.26	-0.12	-0.11	1.00				
5. Skills matched to job	0.34	-0.19	-0.15	0.39	1.00			
6. Training received	0.11	-0.09	-0.03	0.19	0.13	1.00		
7. Manager pays attention/understands employees	0.31	-0.20	-0.21	0.29	0.34	0.13	1.00	
8. Working under time pressures	-0.06	0.05	0.15	0.03	-0.03	0.03	-0.06	1.00

Base: Employees of small firms with 11 or more employees with at least one year tenure in private sector workplace. N= 8,201

A9: Correlation matrix of job quality measures in the WERS survey

	1	2	3	4	5	6	7	8
1. Free to decide how to work	1.00							
2. Believes job is not secure	-0.13	1.00						
3. Work adversely affects private life	-0.05	0.09	1.00					
4. Able to learn or develop skills	0.19	-0.19	-0.11	1.00				
5. Skills matched to job	0.05	-0.08	-0.06	0.13	1.00			
6. Training received	0.09	-0.08	0.02	0.26	0.03	1.00		
7. Manager pays attention/understands employees	0.19	-0.22	-0.13	0.51	0.09	0.14	1.00	
8. Working under time pressures	-0.01	0.07	0.27	-0.04	-0.02	0.04	-0.08	1.00

Base: Employees of small firms with 11 or more employees with at least one year tenure in private sector workplace. N= 10,592

A10. Job quality by individual characteristics in France and in Britain

	Job quality	
	France	*Britain*
Gender: Male	4.26	4.87
Female	4.25	5.22
Age: Less than 30	4.31	5.21
30 – 59	4.24	4.97
60 and more	4.38	5.01
*Occupation:*Managers	4.96	5.36
Professionals	5.08	5.20
Technicians	4.72	5.18
Clerks	4.23	5.13
Service and Sale	3.78	5.11
Skilled agriculture/fishery	3.73	4.99
Craft workers	4.15	4.81
Plant and machinery	3.51	4.40
Elementary occupation	3.79	4.56
Tenure: Less than 5 years	4.25	5.11
5 to 10	4.32	5.03
10 and more	4.23	4.90
Contract : permanent	4.25	5.03
Temporary agency contract	4.52	4.81
Fixed-term contract	4.14	5.01

Notes: Weighted frequencies in the cells. The scales for job quality range from 0 (low) to +8 (high) in both surveys.

Base: All employees with at least one year of tenure, in private sector workplaces with 11 or more employees, with no missing data on job quality. Figures are based on responses from at least 11,195 employees in Britain and 10,549 employees in France.

A11. Job quality by individual characteristics in France and in Britain in large firms

	Job quality	
	France	*Britain*
Gender: Male	4.37	4.69
Female	4.10	5.02
Age: Less than 30	4.19	4.9
30 – 59	4.27	4.77
60 and more	4.53	4.90
Occupation: Managers	4.83	5.24
Professionals	5.23	5.13
Technicians	4.78	4.89
Clerks	3.84	5.07
Service and Sale	3.72	4.89
Skilled agriculture/fishery	4.09	4.81
Craft workers	4.17	4.78
Plant and machinery	3.51	4.34
Elementary occupation	3.65	4.30
Tenure: Less than 5 years	4.18	4.96
5 to 10	4.24	4.78
10 and more	4.30	4.69
Contract : permanent	4.26	4.83
Temporary agency contract	4.36	4.33
Fixed-term contract	3.89	4.86

Notes: Weighted frequencies in the cells. The scales for job quality range from 0 (low) to +8 (high) in both surveys.

Base: Large workplaces with 1000 or more employees (2011) with at least 1 year tenure, in private sector workplaces. Figures are based on responses from at least 3,464 employees in France and 5,833 employees in Britain

A12. Job quality by individual characteristics in France and in Britain in small firms

	Job quality	
	France	*Britain*
Gender: Male	4.1	5.0
Female	4.4	5.5
Age: Less than 30	4.3	5.4
30 – 59	4.1	5.2
60 and more	4.6	5.3
Occupation: Managers	5.1	5.4
Professionals	4.9	5.3
Technicians	4.6	5.3
Clerks	4.5	5.2
Service and Sale	3.7	5.6
Skilled agriculture/fishery	3.8	4.9
Craft workers	4.1	4.9
Plant and machinery	3.5	4.4
Elementary occupation	3.7	5.1
Tenure: Less than 5 years	5.2	4.2
5 to 10	5.3	4.3
10 and more	5.2	4.2
Contract : permanent	4.2	5.2
Temporary agency contract	4.8	5.5
Fixed-term contract	4.1	5.4

Notes: Weighted frequencies in the cells. The scales for job quality range from 0 (low) to +8 (high) in both surveys.

Base: Small firms with less than 1000 and less employees (2011) with at least 1 year tenure, in private sector workplaces. Figures are based on responses from at least 3,840 employees in France and 2,831 employees in Britain.

A13. Job Quality in large and in Small firms

	Large firms		Small firms	
	France	**Britain**	**France**	**Britain**
Constant	0.42	0.14	0.05	0.70***
	(0.27)	(0.18)	(0.34)	(0.20)
Gender : Male	0.15**	0.02	-0.10	-0.13**
	(0.06)	(0.06)	(0.06)	(0.06)
Age : 16-30	0.17*	0.08	0.15**	0.12*
	(0.09)	(0.06)	(0.07)	(0.07)
50+	0.14	0.08	0.03	0.03
	(0.30)	(0.08)	(0.17)	(0.08)
Education: Level2	-0.01	-0.28***	0.13	-0.14
	(0.15)	(0.07)	(0.14)	(0.10)
Level 3	0.05	-0.25***	0.16**	-0.16**
	(0.11)	(0.07)	(0.08)	(0.08)
Level5B	0.15	-0.42***	0.19**	-0.10
	(0.12)	(0.10)	(0.10)	(0.11)
Level 5A short	0.00	-0.41***	0.10	-0.21**
	(0.16)	(0.09)	(0.11)	(0.10)
Level 5A long	0.05	-0.27**	0.36***	-0.05
	(0.16)	(0.12)	(0.11)	(0.14)
Union member	-0.21***	-0.15**	-0.38***	-0.16
	(0.08)	(0.06)	(0.09)	(0.12)
Wage residual	0.45***	0.07*	0.57***	0.06
	(0.11)	(0.04)	(0.09)	(0.06)
Tenure: Less than 5 years	-0.12	0.05	-0.04	-0.11
	(0.08)	(0.07)	(0.07)	(0.07)
5 to 10 years	-0.01	-0.03	0.00	-0.01
	(0.07)	(0.09)	(0.06)	(0.07)
Hours per week : 0-29	-0.26**	0.10	0.18*	-0.02
	(0.10)	(0.06)	(0.10)	(0.07)
30-35	-0.11	0.04	0.06	-0.08
	(0.07)	(0.09)	(0.06)	(0.10)
41-29	-0.16**	-0.22***	0.00	-0.21***
	(0.08)	(0.06)	(0.07)	(0.07)
50+	-0.22**	-0.35***	-0.16	-0.29***
	(0.09)	(0.09)	(0.10)	(0.10)
Contract : Temporary	-0.27	-0.49**	0.61	0.22*
	(0.25)	(0.22)	(0.51)	(0.12)
Fixed	-0.15	-0.02	0.09	0.06
	(0.13)	(0.11)	(0.12)	(0.17)
Occupation : Professionals	0.13	-0.13	-0.19*	-0.13
	(0.11)	(0.10)	(0.11)	(0.09)
Technicians	-0.09	-0.26***	-0.39***	-0.18**
	(0.10)	(0.09)	(0.10)	(0.09)
Clerks	-0.43***	-0.15	-0.39***	-0.25***
	(0.12)	(0.12)	(0.11)	(0.08)
Service and sales workers	-0.53***	-0.35***	-0.77***	-0.13
	(0.14)	(0.10)	(0.14)	(0.11)
Skilled agriculture/fishery	-0.20	-0.36*	0.46**	-0.13
	(0.35)	(0.21)	(0.21)	(0.26)
Craft workers	-0.37**	-0.30**	-0.45***	-0.22*
	(0.15)	(0.13)	(0.12)	(0.12)

(continued)	Large firms		Small firms	
	France	**Britain**	**France**	**Britain**
Plant and machinery	-0.68***	-0.44***	-0.78***	-0.43***
	(0.14)	(0.14)	(0.12)	(0.15)
Elementary	-0.60***	-0.40***	-0.77***	-0.20**
	(0.18)	(0.11)	(0.16)	(0.09)
Union recognition : yes	-0.30**	-0.05		
	(0.12)	(0.06)		
Industry : Energy	0.44*	0.27**	0.62***	0.23
	(0.25)	(0.11)	(0.22)	(0.22)
Construction	0.04	0.32***	0.23**	0.17
	(0.13)	(0.12)	(0.11)	(0.15)
Wholesale and retail	0.02	0.12	0.15	-0.14
	(0.10)	(0.12)	(0.10)	(0.13)
Hotels and restaurants	-0.01	0.05	0.25	-0.11
	(0.31)	(0.14)	(0.21)	(0.17)
Transport and commun.	0.09	-0.03	0.09	-0.58**
	(0.10)	(0.12)	(0.11)	(0.27)
Financial services	0.08	0.22**	0.07	-0.25
	(0.14)	(0.11)	(0.20)	(0.32)
Other business	0.00	0.03	0.15	0.02
	(0.10)	(0.08)	(0.10)	(0.11)
Education	-0.04	0.03	-0.34	0.18
	(0.42)	(0.13)	(0.30)	(0.16)
Health care	0.39***	0.32**	0.17	0.37**
	(0.12)	(0.12)	(0.13)	(0.15)
Other community	0.06	0.46***	0.22	0.06
	(0.16)	(0.12)	(0.14)	(0.14)
Capital city	-0.06	0.03	-0.19**	0.06
	(0.07)	(0.07)	(0.08)	(0.10)
Workplace age: 5 to 9 years	-0.26	0.54***	0.19	0.20
	(0.18)	(0.14)	(0.27)	(0.14)
10 to 19 years	-0.23	0.40***	0.18	0.06
	(0.17)	(0.12)	(0.26)	(0.13)
20 to 49 years	-0.05	0.52***	0.18	-0.02
	(0.16)	(0.11)	(0.26)	(0.12)
50+ years	-0.14	0.50***	0.20	-0.20
	(0.16)	(0.12)	(0.26)	(0.13)
Family ownership: 25% of equity capital	0.01	-0.09	-0.10	0.05
	(0.06)	(0.06)	(0.07)	(0.07)
Foreign ownership: yes	-0.02	0.07	-0.34**	-0.06
	(0.08)	(0.05)	(0.15)	(0.11)
R-squared	0.14	0.10	0.13	0.09
Observations	2,110	3,398	2,374	2,147
Number of firms	822	387	1092	307

Notes: Weighted OLS regressions controlling for workforce composition Dummies for missing observations are not presented. Standard errors in parentheses.

Base: REPONSE (2011); WERS (2011). Large firms with more than 1000 employees and more than with 12 months tenure in private sector workplaces, and small firms with less than 100 employees with more than 12 months of tenure, in private sector workplaces. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1

A14.1 Sub-dimensions of job quality in France (Full sample)

	Job demand	**Job insecurity**	**Job autonomy**	**Low work-life balance**	**Manager – employee relation**	**Skills matched to a job**	**Training received**	**Skill development**
Constant	0.68***	0.18***	0.80***	0.28***	0.65***	0.85***	0.30***	0.37***
	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
Gender: Male	-0.00	-0.01	0.01	0.03**	0.03**	0.02	0.02	0.04***
(Ref: female)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)
Age 16-29	-0.02	-0.04**	-0.02	0.06***	0.05**	-0.02	0.06***	0.08***
(Ref: 31-49)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
50+	-0.06	-0.03	-0.05	-0.04	-0.00	0.01	-0.10*	0.10*
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
Education: Level2	0.06**	0.01	0.04	-0.03	0.03	-0.01	0.09***	0.02
(Ref: Level 0/1	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level 3	0.04**	-0.01	0.11***	0.01	-0.00	-0.02	0.11***	0.07***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Level5B	0.09***	-0.02	0.13***	-0.04*	0.02	-0.05*	0.20***	0.09***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)
Level 5A short	0.10***	-0.01	0.12***	0.01	0.00	-0.10***	0.18***	0.09***
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level 5A long	0.11***	-0.02	0.14***	-0.07***	0.04	-0.11***	0.20***	0.13***
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Union member: yes	0.01	0.08***	-0.08***	0.04**	-0.08***	-0.07***	0.01	-0.05***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Wage residual	0.01	-0.08***	0.16***	-0.09***	0.19***	0.19***	0.10***	0.18***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)
Tenure: Less than 5 years	-0.03*	0.02*	-0.05***	0.03**	0.03*	-0.05***	-0.03**	0.03**
(Ref: more than 10 years)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
5 to 10 years	-0.01	-0.01	-0.01	0.01	0.02	-0.01	0.01	0.04**
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager – employee relation	Skills matched to a job	Training received	Skill development
Hours: 0-29 hours per week	-0.10***	0.02	0.01	-0.08***	0.02	-0.04*	-0.11***	-0.08***
(Ref: 36-40 hours per week)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
30-35	-0.04***	0.01	-0.02	-0.04***	-0.02	-0.04**	-0.03*	-0.03*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
41-29	0.12***	0.03*	0.04**	0.17***	0.02	0.04**	0.03	0.07***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
50+	0.12***	0.06***	-0.03	0.37***	-0.04	0.06*	0.03	0.05**
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)
Contract: Temporary	-0.14*	-0.05	-0.02	-0.08	0.03	-0.04	0.00	0.05
(Ref: permanent)	(0.07)	(0.04)	(0.06)	(0.05)	(0.06)	(0.08)	(0.09)	(0.09)
Fixed	-0.05**	0.06**	-0.01	-0.02	0.06*	-0.01	-0.06**	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Occupation: Professionals	-0.01	-0.03	-0.03	-0.02	-0.07***	-0.02	-0.03	-0.03
(Ref: managers)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Technicians	-0.03	0.02	-0.09***	0.01	-0.14***	-0.09***	-0.05*	-0.10***
	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Clerks	-0.05*	0.04	-0.12***	0.00	-0.16***	-0.16***	-0.10***	-0.20***
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Service and sales workers	0.02	0.01	-0.20***	0.07**	-0.21***	-0.19***	-0.09**	-0.26***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)
Skilled agriculture/fishery	-0.23	0.02	-0.47***	-0.06	-0.18	-0.33*	-0.08	-0.41***
	(0.18)	(0.09)	(0.16)	(0.14)	(0.18)	(0.19)	(0.17)	(0.13)
Craft workers	0.00	0.03	-0.20***	0.06*	-0.23***	-0.14***	-0.08**	-0.16***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)
Plant and machinery	-0.00	0.01	-0.31***	0.10***	-0.25***	-0.23***	-0.08**	-0.26***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Elementary	-0.06*	0.05	-0.18***	0.10***	-0.20***	-0.20***	-0.09**	-0.25***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager – employee relation	Skills matched to a job	Training received	Skill development
Firm size: 100-999	-0.02	-0.07***	-0.01	-0.03*	0.06***	-0.02	0.04**	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
1000-9999	-0.02	-0.09***	-0.03	-0.01	0.05**	-0.05*	0.05**	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
10000 and more	-0.04	-0.13***	-0.07***	0.01	0.06**	-0.07**	0.05**	0.00
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Union recognition	0.04***	0.06***	-0.05***	0.02	-0.05***	-0.05***	0.03	-0.03*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Industry: Energy	-0.20*	-0.07*	0.24***	-0.01	0.10	0.07	0.15**	0.00
(Ref: manufacturing)	(0.10)	(0.04)	(0.06)	(0.08)	(0.07)	(0.06)	(0.08)	(0.09)
Construction	-0.01	-0.04	0.01	-0.00	0.06**	0.12***	0.09***	0.14***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Wholesale and retail	-0.03	-0.01	0.07***	-0.00	-0.03	0.02	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Hotels and restaurants	-0.02	-0.06	0.12***	-0.07	0.00	0.11**	-0.10**	0.02
	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)	(0.04)	(0.05)	(0.05)
Transport and commun.	-0.06***	-0.05**	-0.04*	0.01	-0.02	0.04*	0.09***	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
Financial services	-0.06*	0.00	-0.01	0.02	-0.08**	-0.04	0.06	-0.07*
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)
Other business	-0.03	-0.02	0.05**	0.01	-0.04*	0.01	0.02	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Education	0.01	0.10	-0.01	0.04	-0.18**	0.03	-0.09	-0.17***
	(0.07)	(0.12)	(0.07)	(0.08)	(0.09)	(0.07)	(0.08)	(0.05)
Health	-0.09***	-0.06**	0.00	-0.00	-0.01	0.13***	0.06**	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Other community services	-0.10***	-0.05	0.04	-0.03	-0.05	0.01	0.00	0.01
	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.06)	(0.04)	(0.04)
Capital city: yes	-0.01	0.02	-0.04**	0.01	-0.01	-0.02	-0.04**	-0.04**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager – employee relation	Skills matched to a job	Training received	Skill development
Workplace age: 5 to 9 years	0.00	0.02	0.02	-0.01	-0.03	-0.02	0.02	-0.05
(Ref: less than 5 years)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)
10 to 19 years	-0.01	0.02	-0.01	-0.04	-0.00	-0.01	0.03	-0.04
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
20 to 49 years	-0.01	-0.01	0.01	-0.05	0.00	0.01	0.02	-0.04
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
50+ years	0.00	-0.02	0.01	-0.06	-0.04	0.03	0.02	-0.01
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Family ownership: 25% of equity capital	0.02	0.03**	-0.01	0.00	-0.02*	-0.02	-0.05***	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)
Foreign ownership: yes	-0.00	0.09***	-0.03	-0.00	-0.00	-0.01	-0.00	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)
R-squared	0.06	0.04	0.11	0.09	0.05	0.07	0.09	0.12
Number of firms	816.8	630.5	816.1	816.6	813.6	814.9	805.2	816.3
Observations	9,232	7,168	9,231	9,233	9,203	9,211	9,117	9,227

Notes: Weighted OLS regressions. Dummies for missing observations are not presented. Standard errors in parentheses. OLS regressions control for the workforce composition.

Base: All employees with at least 12 months of tenure, in private sector workplaces with 11 and more employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Source: REPONSE (2011)

A14.2 Sub-dimensions of job quality in Britain (Full sample)

	Job demand	**Job insecurity**	**Job autonomy**	**Low- Work-Life balance**	**Manager-employee relation**	**Skills matched to a job**	**Training received**	**Skill development**
Constant	0.56***	0.12**	1.06***	0.10*	0.74***	0.71***	0.36***	0.79***
	(0.07)	(0.05)	(0.04)	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)
Gender: Male	-0.04**	0.00	-0.00	-0.02	-0.03	-0.05***	0.02	-0.03*
(Ref: female)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age 16-29	-0.09***	-0.02	-0.01	0.00	0.01	0.00	0.08***	0.02
(Ref: 31-49)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
50+	-0.02	-0.04*	0.00	-0.08***	-0.01	-0.06**	-0.08***	0.05*
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Education: Level2	0.01	0.07***	-0.06**	0.04	-0.12***	-0.13***	0.01	-0.10***
(Ref: Level 0/1	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level 3	0.00	0.03	-0.04*	0.06**	-0.12***	-0.18***	0.06*	-0.10***
	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level5B	0.01	0.05*	-0.05*	0.05	-0.13***	-0.22***	0.12***	-0.09**
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Level 5A short	0.06*	0.07***	-0.06**	0.12***	-0.12***	-0.22***	0.06*	-0.13***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level 5A long	0.06	0.09***	-0.02	0.14***	-0.08**	-0.16***	0.12***	-0.08**
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Union member: yes	0.02	0.04**	-0.05***	0.04**	-0.03	-0.05**	0.03	-0.06***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Wage residual	0.03**	-0.02	0.04***	0.04***	0.02	0.04***	0.06***	0.04**
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Tenure: Less than 5 years	-0.02	-0.02	-0.04***	0.01	0.05**	-0.07***	0.04**	-0.01
(Ref: more than 10 years)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
5 to 10 years	-0.04*	0.00	-0.04**	0.00	0.01	-0.01	0.02	-0.02
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)

(continued)	Job demand	Job insecurity	Job autonomy	Low- Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill development
Hours: 0-29 hours per week	-0.06***	-0.01	-0.06***	-0.08***	0.06***	-0.02	-0.10***	-0.00
(Ref: 36-40 hours per week)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
30-35	-0.02	0.00	-0.03	-0.00	0.01	-0.02	-0.02	-0.01
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
41-29	0.13***	-0.00	0.00	0.16***	-0.03	-0.03	0.04*	-0.06***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
50+	0.18***	-0.01	0.03	0.34***	-0.02	-0.03	0.02	-0.04
	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Contract: Temporary	-0.07	0.21***	-0.11**	0.01	0.09**	-0.01	-0.10*	0.03
(Ref: permanent)	(0.05)	(0.05)	(0.05)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)
Fixed	0.01	0.13***	0.04	-0.01	0.14***	0.03	-0.06	0.03
	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.06)	(0.05)
Occupation: Professionals	-0.02	0.03	-0.05***	0.01	-0.05	0.01	-0.06*	-0.06**
(Ref: managers)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Technicians	-0.01	0.03	-0.05***	-0.03	-0.07**	-0.06**	-0.05*	-0.11***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Clerks	-0.08**	-0.01	-0.08***	-0.07**	-0.11***	-0.08**	-0.14***	-0.17***
	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)
Service and sales workers	-0.15***	-0.01	-0.12***	0.02	-0.18***	-0.07**	-0.11***	-0.15***
	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Skilled agriculture/fishery	0.12	-0.06	-0.10	-0.13*	-0.00	-0.04	-0.17	-0.18
	(0.12)	(0.04)	(0.10)	(0.07)	(0.10)	(0.11)	(0.12)	(0.11)
Craft workers	-0.17***	0.07**	-0.09***	-0.04	-0.22***	-0.04	-0.12***	-0.19***
	(0.04)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)
Plant and machinery	-0.17***	0.05	-0.20***	0.02	-0.25***	-0.07**	-0.15***	-0.28***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.05)	(0.04)
Elementary	-0.18***	0.05*	-0.10***	-0.05	-0.12***	-0.10***	-0.22***	-0.19***
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)

(continued)	Job demand	Job insecurity	Job autonomy	Low- Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill development
Firm size: 100-999	0.03	-0.00	-0.00	-0.00	0.01	-0.01	0.09***	0.04*
	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
1000-9999	0.04	0.03	-0.06***	0.06***	-0.07***	-0.01	0.09***	-0.03
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
10000 and more	0.08**	0.05**	-0.06***	0.04*	-0.03	-0.02	0.06**	0.02
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Union recognition	0.01	-0.01	0.00	-0.00	-0.03	-0.00	0.05**	0.01
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Industry: Energy	0.04	-0.08*	-0.00	0.00	0.09**	0.06	0.26***	0.10**
(Ref: manufacturing)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Construction	0.00	-0.03	0.05**	0.01	0.06	0.06	0.10*	0.09**
	(0.04)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)
Wholesale and retail	-0.04	-0.04	-0.00	0.03	-0.00	-0.02	-0.10***	0.02
	(0.04)	(0.03)	(0.02)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)
Hotels and restaurants	-0.08*	0.02	0.02	0.13***	0.01	-0.13***	0.03	-0.02
	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)
Transport and commun.	-0.09**	0.08	-0.01	0.10***	-0.03	-0.01	0.09**	-0.04
	(0.04)	(0.05)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)
Financial services	-0.03	-0.06	0.01	0.03	0.03	0.08**	0.03	0.07
	(0.05)	(0.04)	(0.03)	(0.03)	(0.05)	(0.04)	(0.05)	(0.05)
Other business	-0.02	0.01	-0.01	0.06**	0.02	0.03	0.10***	0.02
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)
Education	0.02	-0.04	-0.02	0.10***	0.04	-0.00	0.11**	0.05
	(0.04)	(0.03)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)
Health	-0.02	-0.04	0.01	0.07**	0.04	0.03	0.27***	0.16***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)
Other community services	-0.09**	0.00	0.02	0.08*	0.03	-0.02	0.07	-0.01
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.05)	(0.04)
Capital city: yes	-0.07***	-0.01	0.01	0.04**	0.05	-0.04*	-0.05*	0.04
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)

(continued)	Job demand	Job insecurity	Job autonomy	Low- Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill development
Workplace age: 5 to 9 years	-0.08*	-0.01	0.02	-0.03	0.06	0.04	0.05	0.04
(Ref: less than 5 years)	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.03)	(0.04)	(0.04)
10 to 19 years	-0.12***	-0.04	-0.00	-0.02	0.03	0.03	0.04	0.03
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)
20 to 49 years	-0.13***	-0.05*	0.01	-0.01	0.07*	0.02	0.02	0.06
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.04)	(0.04)
50+ years	-0.12**	-0.03	0.03	-0.02	0.03	0.03	0.01	0.02
	(0.05)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)
Family ownership: 25% of equity capital	0.01	-0.02	-0.01	0.03*	0.00	0.02	-0.03	-0.04**
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.0173)	(0.02)	(0.02)
Foreign ownership: yes	0.01	-0.02	-0.03*	0.00	0.00	0.04*	0.01	0.03
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
R-squared	0.09	0.05	0.07	0.12	0.07	0.04	0.12	0.06
Observations	7,865	7,734	7,920	7,953	7,882	7,947	7,930	7,875
Number of firms	909	910	910	910	910	910	910	910

Notes: Weighted OLS regressions. Dummies for missing observations are not presented. Standard errors in parentheses. OLS regressions control for the workforce composition.

Base: All employees with at least 12 months of tenure, in private sector workplaces with 11 and more employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Source: WERS (2011)

A15.1 Separate dimensions of job quality in large firms in France

Dependent variables →	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee relation	Skills matched to a job	Training received	Skill developmet
Constant	0.61***	0.15	0.91***	0.30**	0.74***	0.81***	0.54***	0.47***
	(0.11)	(0.10)	(0.11)	(0.12)	(0.12)	(0.12)	(0.13)	(0.12)
Gender: Male *(Ref : female)*	-0.02	0.00	0.04	0.02	0.06**	0.04*	-0.02	0.06**
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Age: 16-30 *(Ref : 30-49)*	-0.07*	-0.04	-0.07*	0.09**	0.12***	-0.04	0.05	0.08**
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
50+	0.12	-0.01	-0.06	-0.18**	-0.07	0.016	-0.08	0.23**
	(0.09)	(0.09)	(0.11)	(0.09)	(0.08)	(0.15)	(0.12)	(0.11)
Education: Level 2 (*Ref: Level 1*)	0.12**	-0.02	0.01	-0.07	0.02	0.05	0.16***	-0.04
	(0.05)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Level 3	0.09**	-0.02	0.06*	0.01	0.01	-0.04	0.13***	0.06*
	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Level 5B	0.15***	-0.05	0.11**	-0.07*	0.04	-0.05	0.27***	0.05
	(0.05)	(0.03)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Level 5A short	0.17***	0.00	0.11*	0.03	0.03	-0.06	0.23***	0.11*
	(0.06)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Level 5A long	0.17***	-0.02	0.06	-0.12**	0.06	-0.11**	0.24***	0.13**
	(0.07)	(0.04)	(0.06)	(0.05)	(0.06)	(0.06)	(0.07)	(0.07)
Union member: yes	0.02	0.02	-0.05*	0.01	-0.08**	-0.09***	-0.01	-0.08**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Wage residual	-0.01	-0.03	0.10**	-0.13***	0.20***	0.14***	0.14***	0.17***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)
Tenure: Less than 5 years	-0.05*	0.02	-0.01	0.05	0.02	-0.03	-0.06	0.01
(Ref : more than 10 years)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
5 to 10 years	-0.01	-0.01	0.01	0.01	0.03	-0.04	0.01	0.00
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)

(continued)	Job demand	Job insecurity	Job autonomy	Low-Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill developmet
Hours: 0-29 hours per week	-0.02	0.04	-0.04	0.00	-0.03	-0.09**	-0.09**	-0.09**
	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)
30-35	-0.00	0.02	-0.05*	-0.01	-0.02	-0.03	-0.03	-0.05*
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
41-29	0.17***	0.08**	0.01	0.23***	-0.01	0.06	0.04	0.11***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)
50+	0.10**	0.10**	-0.10*	0.40***	-0.07	0.08	0.02	0.06
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)
Contract type: Temporary	-0.14	0.03	-0.07	-0.03	-0.08	-0.13	0.02	0.00
(Ref: permanent)	(0.12)	(0.05)	(0.10)	(0.15)	(0.13)	(0.14)	(0.12)	(0.12)
Fixed	-0.06	0.14**	-0.02	-0.05	0.02	-0.04	-0.13**	0.01
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Occupation: Professionals	0.01	-0.03	0.04	-0.09*	-0.05	0.08	-0.04	0.01
(Ref : managers)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Technicians	-0.07	0.08	-0.09*	-0.05	-0.11**	0.00	-0.03	-0.03
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Clerks	-0.03	0.09	-0.17***	0.06	-0.20***	-0.08	-0.17***	-0.14***
	(0.05)	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)
Service and sales workers	0.05	0.05	-0.17**	0.01	-0.21***	-0.08	-0.09	-0.18***
	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)
Skilled agri/fishery	-0.56***	-0.05	-0.50	-0.24**	-0.34	-0.32	0.25	-0.53***
	(0.11)	(0.07)	(0.37)	(0.12)	(0.24)	(0.25)	(0.27)	(0.10)
Craft workers	0.03	0.04	-0.19***	-0.01	-0.26***	-0.08	-0.10	-0.12*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)
Plant and machinery	-0.02	0.06	-0.33***	0.05	-0.27***	-0.16***	-0.17**	-0.18***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)
Elementary	-0.04	0.12*	-0.17**	0.15**	-0.23***	-0.12*	-0.12*	-0.19**
	(0.07)	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
Union recognition : yes	0.03	0.03	-0.12**	0.03	-0.04	-0.08	-0.01	-0.10**
	(0.05)	(0.04)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)

(continued)	Job demand	Job insecurity	Job autonomy	Low-Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill developmet
Industry : Energy	-0.19	-0.07	0.36***	0.00	0.14	0.18*	0.22***	-0.01
(Ref: Manufacturing)	(0.15)	(0.05)	(0.06)	(0.12)	(0.11)	(0.10)	(0.07)	(0.14)
Construction	0.01	0.03	-0.04	-0.00	-0.03	0.11*	0.14**	0.08
	(0.05)	(0.05)	(0.06)	(0.07)	(0.06)	(0.06)	(0.07)	(0.06)
Wholesale and retail	-0.03	0.03	0.06	-0.03	-0.01	-0.02	-0.05	-0.10**
	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Hotels and restaurants	-0.03	0.00	-0.01	-0.02	0.05	0.17*	-0.06	0.07
	(0.07)	(0.08)	(0.10)	(0.10)	(0.13)	(0.10)	(0.10)	(0.08)
Transport and commun.	0.02	-0.08**	-0.01	-0.10**	-0.06	0.06	0.01	-0.05
	(0.05)	(0.03)	(0.04)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)
Financial services	-0.01	0.02	0.01	-0.02	-0.05	0.00	0.03	-0.01
	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.08)	(0.05)	(0.07)
Other business	-0.03	-0.04	0.05	-0.06	-0.05	-0.04	-0.06	-0.03
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
Education	0.19***	-0.04	-0.10	-0.01	0.06	-0.06	-0.05	0.03
	(0.06)	(0.06)	(0.21)	(0.18)	(0.17)	(0.11)	(0.18)	(0.08)
Health care	-0.07	-0.07	0.09*	-0.03	0.03	0.18***	0.03	0.07
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.07)
Other community	-0.11*	-0.09	-0.01	-0.09	-0.15**	-0.23**	0.05	-0.08
	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.11)	(0.06)	(0.06)
Capital city : yes	-0.04	0.04	-0.03	0.00	-0.02	-0.03	0.01	-0.02
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)
Workplace age: 5 to 9 years	0.07	0.01	-0.06	0.09	-0.09	-0.09	-0.04	-0.09
(Ref: less than 5 years)	(0.06)	(0.06)	(0.07)	(0.09)	(0.07)	(0.09)	(0.07)	(0.07)
10 to 19 years	0.10	-0.02	-0.00	0.02	-0.06	0.03	-0.03	-0.03
	(0.06)	(0.06)	(0.05)	(0.08)	(0.06)	(0.06)	(0.06)	(0.06)
20 to 49 years	0.03	-0.05	-0.02	0.01	-0.02	0.01	-0.02	-0.00
	(0.06)	(0.05)	(0.05)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)
50+ years	0.05	-0.07	-0.02	-0.01	-0.09	0.04	-0.07	-0.01
	(0.06)	(0.05)	(0.05)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)

(continued)	Job demand	Job insecurity	Job autonomy	Low-Work-Life balance	Manager-employee relation	Skills matched to a job	Training received	Skill developmet
Family ownership: 25% of equity capital	0.00	-0.01	-0.00	-0.04*	0.01	-0.01	-0.02	0.02
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Foreign ownership: yes	-0.01	0.07**	-0.03	-0.02	0.01	0.02	0.01	0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)
R-squared	0.08	0.06	0.11	0.11	0.06	0.08	0.14	0.13
Observations	2,764	2,208	2,761	2,761	2,756	2,763	2,725	2,762
Number of firm	892	833	892	892	891	891	889	890

Notes: Weighted OLS regressions. Dummies for missing observations are not presented. Standard errors in parentheses. OLS regressions control for the workforce composition.

Base: All employees with at least 12 months of tenure, in private sector workplaces with 1000 and more employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Source: REPONSE (2011)

A15.2 Separate dimensions of job quality

Dependent variables →	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Constant	0.67***	0.23***	1.04***	0.26***	0.63***	0.63***	0.39***	0.72***
	(0.11)	(0.08)	(0.06)	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)
Gender: Male *(Ref : female)*	-0.09***	0.01	-0.01	-0.02	-0.03	-0.04	0.04	-0.04
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Age: 16-30 *(Ref : 30-49)*	-0.06**	0.00	-0.00	0.01	-0.01	0.00	0.09***	0.03
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
50+	-0.02	-0.03	-0.02	-0.11***	0.00	-0.01	-0.02	0.05
	(0.05)	(0.03)	(0.03)	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)
Education: Level 2 (*Ref: Level 1*)	0.02	0.06*	-0.08*	0.04	-0.11**	-0.17***	-0.02	-0.11**
	(0.05)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Level 3	-0.01	0.02	-0.08**	0.05	-0.12***	-0.19***	0.03	-0.10**
	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Level 5B	0.04	0.06	-0.09**	0.09*	-0.17***	-0.28***	0.03	-0.16***
	(0.06)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Level 5A short	0.07	0.05	-0.08*	0.14***	-0.14***	-0.24***	0.04	-0.14***
	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Level 5A long	0.04	0.08*	-0.03	0.12**	-0.15**	-0.17**	0.09	-0.07
	(0.06)	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.05)
Union member: yes	0.01	0.06***	-0.05**	0.03	-0.02	-0.04	0.01	-0.06**
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Wage residual	0.03	-0.03	0.05***	0.06***	0.01	0.03	0.05**	0.05**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

(Continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Tenure: Less than 5 years	-0.03	-0.03	-0.07***	-0.01	0.09**	-0.06*	0.05*	0.00
(Ref : more than 10 years)	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)
5 to 10 years	-0.05*	-0.00	-0.03	0.02	0.00	-0.03	-0.01	-0.03
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)
Hours: 0-29 hours per week	-0.12***	-0.00	-0.09***	-0.14***	0.07*	-0.00	-0.09**	-0.00
(Ref : 30-35 hours per week)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
30-35	-0.05	-0.02	-0.06**	-0.01	0.02	0.02	-0.02	0.01
	(0.05)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
41-29	0.10***	0.04	-0.01	0.13***	-0.06*	-0.04	0.04	-0.07**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
50+	0.12***	0.04	0.01	0.35***	-0.04	-0.01	-0.00	-0.06
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
Contract type: Temporary	0.07	0.26***	-0.07	0.06	0.04	0.01	-0.23***	-0.11
(Ref: permanent)	(0.08)	(0.09)	(0.09)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
Fixed	0.05	0.14**	0.03	0.00	0.16**	0.02	-0.06	0.05
	(0.07)	(0.05)	(0.05)	(0.06)	(0.07)	(0.07)	(0.09)	(0.06)
Occupation: Professionals	-0.04	0.02	-0.06**	0.04	-0.05	0.02	-0.04	-0.08
(Ref : managers)	(0.04)	(0.04)	(0.03)	(0.05)	(0.04)	(0.04)	(0.06)	(0.05)
Technicians	-0.02	0.03	-0.06***	-0.02	-0.14***	-0.03	-0.10**	-0.18***
	(0.05)	(0.04)	(0.02)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Clerks	-0.11*	-0.03	-0.15***	-0.08**	-0.12**	-0.01	-0.09*	-0.13**
	(0.06)	(0.04)	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.06)
Service and sales workers	-0.14***	-0.01	-0.19***	0.01	-0.17***	-0.10*	-0.19***	-0.19***
	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Skilled agriculture/fishery	0.15	-0.09*	-0.31	-0.08	-0.11	0.22	-0.26	-0.15
	(0.23)	(0.05)	(0.20)	(0.11)	(0.12)	(0.16)	(0.17)	(0.13)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Craft workers	-0.18***	0.08	-0.11**	-0.03	-0.22***	-0.02	-0.03	-0.25***
	(0.05)	(0.06)	(0.04)	(0.04)	(0.06)	(0.05)	(0.06)	(0.06)
Plant and machinery	-0.15***	0.02	-0.24***	0.03	-0.24***	-0.05	-0.12*	-0.28***
	(0.06)	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)	(0.07)	(0.06)
Elementary	-0.14***	0.05	-0.16***	-0.03	-0.13**	-0.14***	-0.24***	-0.21***
	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Union recognition : yes	0.02	0.03	-0.01	-0.01	-0.04	-0.03	0.04	-0.01
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Industry: Energy	0.03	-0.06	0.03	0.02	0.08*	0.05	0.22***	0.06
(Ref : manufacutring)	(0.06)	(0.05)	(0.04)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Construction	-0.07	-0.07	0.10***	0.02	0.16***	0.07	-0.01	0.10*
	(0.06)	(0.07)	(0.04)	(0.05)	(0.05)	(0.06)	(0.07)	(0.05)
Wholesale and retail	-0.06	-0.10**	0.06	0.08	-0.01	0.08**	-0.12**	0.04
	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Hotels and restaurants	-0.11	0.00	0.07	0.15**	0.06	-0.14***	0.01	0.02
	(0.08)	(0.06)	(0.05)	(0.06)	(0.06)	(0.05)	(0.07)	(0.06)
Transport and commun.	-0.09*	0.09	0.01	0.11**	-0.01	0.01	0.06	-0.05
	(0.05)	(0.06)	(0.04)	(0.04)	(0.06)	(0.05)	(0.05)	(0.05)
Financial services	-0.05	-0.07	0.04	0.06	0.05	0.13***	-0.00	0.08
	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.07)	(0.05)
Other business	-0.06	0.03	0.03	0.09**	0.07*	-0.02	0.01	-0.01
	(0.05)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Health care	-0.04	-0.09*	0.09*	0.15***	0.05	-0.03	0.26***	0.13**
	(0.07)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Other community	-0.23***	-0.09*	0.10**	0.02	0.14***	0.01	0.13**	0.07
	(0.06)	(0.05)	(0.04)	(0.06)	(0.04)	(0.04)	(0.06)	(0.05)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Capital city : yes	-0.04	-0.03	-0.04	0.03	-0.02	0.03	0.01	0.07*
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Workplace age: 5 to 9 years	-0.22***	-0.12***	0.07*	-0.06	0.17***	0.13***	0.05	0.13**
(Ref: less than 5 years)	(0.06)	(0.05)	(0.04)	(0.05)	(0.06)	(0.04)	(0.05)	(0.06)
10 to 19 years	-0.15***	-0.09*	0.03	-0.09*	0.11**	0.06**	0.09*	0.08
	(0.05)	(0.05)	(0.03)	(0.05)	(0.05)	(0.03)	(0.05)	(0.05)
20 to 49 years	-0.17***	-0.14***	0.04	-0.08*	0.17***	0.08***	0.07*	0.18***
	(0.06)	(0.04)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)
50+ years	-0.16***	-0.09**	0.10***	-0.10**	0.16***	0.08**	0.05	0.15***
	(0.06)	(0.05)	(0.03)	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)
Family ownership: 25% of equity capital	0.01	0.00	0.00	0.04	-0.01	-0.05**	0.02	-0.06**
	(0.03)	(0.04)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)
Foreign ownership: yes	0.03	-0.04*	-0.02	-0.02	0.01	0.05**	0.02	0.03
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)
R-squared	0.09	0.08	0.09	0.15	0.06	0.06	0.11	0.08
Observations	3,556	3,526	3,584	3,607	3,572	3,605	3,593	3,580
Number of firms	387	388	388	388	388	388	388	388

Notes: Weighted OLS regressions. Dummies for missing observations are not presented. Standard errors in parentheses. OLS regressions control for the workforce composition.

Base: All employees with at least 12 months of tenure, in private sector workplaces with 1000 and more employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Source: WERS (2011)

A16.1 Separate dimensions of job quality in France in small firms

	Job demand	Job insecurity	Autonomy	Low work-life balance	Manager-employee relation	Skills' match to a job	Training received	Skill development
Constant	0.85 ***	0.13 *	0.83 ***	0.25 **	0.77***	0.89 ***	0.22 **	0.45 ***
	(0.10)	(0.08)	(0.09)	(0.10)	(0.11)	(0.11)	(0.10)	(0.12)
Gender: Male	0.03	0.02	-0.02	0.03	-0.03	-0.03	0.02	-0.01
(Ref: female)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Age 16-29	0.02	-0.03	0.01	0.05*	0.03	0.03	0.07***	0.08***
(Ref: 31-49)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
50+	-0.05	-0.16***	0.01	0.00	0.07	0.03	-0.08	0.04
	(0.08)	(0.05)	(0.06)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)
Education: Level2	-0.00	0.03	0.08	-0.03	0.04	-0.02	0.11**	0.11**
(Ref: Level 0/1	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)
Level 3	-0.00	-0.03	0.14***	0.00	-0.02	-0.00	0.08***	0.06*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Level5B	0.02	-0.02	0.16***	-0.04	-0.00	-0.06	0.14***	0.09**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Level 5A short	0.03	-0.05	0.11**	-0.02	-0.01	-0.17***	0.17***	0.07
	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Level 5A long	0.03	-0.03	0.21***	-0.13***	0.02	-0.06	0.19***	0.18***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Union member: yes	0.02	0.19***	-0.07*	0.10**	-0.12***	-0.06	-0.04	-0.06
	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Wage residual	0.05	-0.09***	0.20***	-0.11***	0.19***	0.16***	0.07*	0.15***
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Tenure: Less than 5 years	-0.05**	0.02	-0.06***	0.01	0.00	-0.10***	0.01	0.03
(Ref: more than 10 years)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)
5 to 10 years	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	0.01	0.04*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

(continued)	Job demand		Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Hours: 0-29 hours per week	-0.19***	-0.01	0.04	-0.18***	0.03	-0.03	-0.15***	-0.10***
(Ref: 36-40 hours per week)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
30-35	-0.09***	0.01	0.01	-0.10***	-0.03	-0.03	-0.04	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
41-29	0.08***	0.01	0.05*	0.15***	0.05	0.05*	0.02	0.06*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
50+	0.11***	0.03	0.02	0.33***	-0.01	0.10***	0.04	0.08**
	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Contract: Temporary	-0.01	-0.09	-0.01	-0.09	-0.00	0.14	0.15	0.34**
(Ref: permanent)	(0.11)	(0.06)	(0.15)	(0.12)	(0.11)	(0.11)	(0.212)	(0.15)
Fixed	-0.02	0.02	-0.01	-0.04	0.10**	0.02	-0.06	0.10**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
Occupation: Professionals	-0.03	-0.09**	-0.08**	0.05	-0.09*	-0.09**	-0.08	-0.09**
(Ref: managers)	(0.04)	(0.04)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Technicians	-0.05	-0.06	-0.15***	0.06	-0.21***	-0.14***	-0.15***	-0.17***
	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)
Clerks	-0.11***	-0.01	-0.16***	0.04	-0.22***	-0.19***	-0.08	-0.22***
	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Service and sales workers	-0.01	-0.02	-0.35***	0.15**	-0.29***	-0.25***	-0.09	-0.32***
	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)
Skilled agriculture/fishery	0.09	-0.28***	-0.24	0.25	-0.37*	-0.33	-0.22	-0.37**
	(0.24)	(0.08)	(0.23)	(0.28)	(0.22)	(0.27)	(0.15)	(0.17)
Craft workers	-0.08*	-0.01	-0.26***	0.12**	-0.26***	-0.18***	-0.09	-0.22***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.06)	(0.05)
Plant and machinery	-0.03	-0.04	-0.36***	0.16***	-0.31***	-0.26***	-0.06	-0.31***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.047)	(0.06)	(0.05)
Elementary	-0.10**	0.04	-0.27***	0.16***	-0.29***	-0.35***	-0.10*	-0.33***
	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Industry: Energy	-0.35***	-0.13	-0.00	0.05	0.27**	-0.09	0.18**	0.15
(Ref: manufacturing)	(0.10)	(0.09)	(0.14)	(0.10)	(0.10)	(0.13)	(0.09)	(0.17)
Construction	-0.04	-0.03	-0.00	0.01	0.05	0.11***	0.08**	0.15***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Wholesale and retail	-0.09***	-0.02	0.08**	0.03	-0.01	0.08**	0.08**	0.04
	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Hotels and restaurants	-0.15**	-0.05	0.12**	-0.01	0.09	0.10	-0.04	-0.01
	(0.07)	(0.06)	(0.06)	(0.08)	(0.08)	(0.07)	(0.07)	(0.08)
Transport and communication	-0.12***	0.05	-0.05	0.10***	0.01	0.03	0.10***	0.03
	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Financial services	-0.05	-0.00	-0.01	0.11	-0.06	-0.05	0.17	-0.07
	(0.07)	(0.09)	(0.05)	(0.07)	(0.08)	(0.09)	(0.12)	(0.07)
Other business	-0.02	-0.05	0.01	0.07*	0.00	0.09**	0.10**	0.08**
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Education	-0.11	0.17	-0.03	0.09	-0.24**	0.08	-0.02	-0.19**
	(0.09)	(0.17)	(0.06)	(0.09)	(0.11)	(0.08)	(0.08)	(0.07)
Health	-0.14***	-0.05	-0.10**	0.09**	-0.01	0.08	0.15***	0.00
	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Other community services	-0.17***	-0.05	0.04	0.05	-0.01	0.09*	0.07	0.05
	(0.06)	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)
Capital city: yes	0.02	0.02	-0.06**	0.04	-0.02	-0.06**	-0.09***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Workplace age: 5 to 9 years	0.01	-0.00	0.12*	-0.13*	0.05	0.10	0.09	0.03
	(0.07)	(0.05)	(0.07)	(0.08)	(0.08)	(0.08)	(0.06)	(0.09)
10 to 19 years	-0.05	0.03	0.02	-0.09	0.04	0.03	0.13**	-0.00
	(0.06)	(0.04)	(0.07)	(0.08)	(0.08)	(0.08)	(0.06)	(0.09)
20 to 49 years	-0.05	0.03	0.03	-0.12	0.01	0.04	0.12**	-0.03
	(0.06)	(0.04)	(0.07)	(0.08)	(0.07)	(0.08)	(0.06)	(0.08)
50+ years	-0.04	0.01	0.02	-0.09	0.00	0.07	0.13**	-0.01
	(0.06)	(0.05)	(0.07)	(0.08)	(0.08)	(0.08)	(0.06)	(0.09)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Family ownership: 25% of equity capital	-0.01	0.01	-0.00	0.011	-0.02	-0.03	-0.07**	-0.07***
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Foreign ownership: yes	-0.00	0.17***	-0.08	0.05	-0.09	-0.10*	0.02	-0.03
	(0.04)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)
Number of firms	1206	1114	1204	1204	1203	1204	1198	1205
Observations	3,299	2,502	3,301	3,298	3,279	3,286	3,247	3,293
R-squared	0.08	0.06	0.12	0.11	0.06	0.08	0.08	0.13

Notes: Weighted OLS regressions controlling for the workforce composition. Dummies for missing observations are not presented. Standard errors in parentheses.

Base: REPONSE (2011). All employees with at least 12 months of tenure, in private sector workplaces with less than 100 employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

A16.2 Separate dimensions of job quality in Britain in small firms with less than 100 employees

Dependent variables →	**Job demand**	**Job insecurity**	**Job autonomy**	**Low work-life balance**	**Manager-employee relation**	**Skills' match to a job**	**Training received**	**Skill development**
Constant	0.35***	-0.00	1.04***	0.11	0.83***	0.73***	0.18	0.89***
	(0.10)	(0.07)	(0.06)	(0.09)	(0.11)	(0.10)	(0.13)	(0.10)
Gender: Male	0.06*	-0.01	-0.01	-0.02	-0.09***	-0.07**	0.01	-0.04
(Ref: female)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Age 16-29	-0.13***	-0.04**	-0.02	0.02	0.02	0.02	0.03	0.02
(Ref: 31-49)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)
50+	-0.02	-0.04	0.03	-0.12***	0.02	-0.09**	-0.11***	0.03
	(0.05)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)
Education: Level2	-0.03	0.10***	-0.01	0.01	-0.07	-0.08	0.10**	-0.06
(Ref: Level 0/1	(0.05)	(0.04)	(0.04)	(0.04)	(0.06)	(0.06)	(0.05)	(0.06)
Level 3	0.01	0.06*	0.02	0.06	-0.08*	-0.14***	0.13***	-0.11*
	(0.05)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.06)
Level5B	-0.00	0.03	0.04	0.08	-0.09	-0.16***	0.20***	-0.05
	(0.05)	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	(0.06)	(0.07)
Level 5A short	0.03	0.09**	0.01	0.10**	-0.06	-0.19***	0.10*	-0.04
	(0.06)	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)	(0.05)	(0.06)
Level 5A long	0.01	0.08	0.05	0.06	0.01	-0.14**	0.14**	-0.01
	(0.08)	(0.05)	(0.04)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)
Union member: yes	-0.00	0.00	-0.02	0.02	-0.12**	-0.07	0.05	-0.10
	(0.06)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)	(0.07)
Wage residual	0.03	-0.04**	0.02	0.04	0.05*	0.02	0.06**	0.02
	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
Tenure: Less than 5 years	-0.03	-0.00	-0.04**	0.01	-0.01	-0.11***	0.03	-0.06
(Ref: more than 10 years)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)
5 to 10 years	-0.00	-0.01	-0.03*	-0.00	0.00	0.01	0.03	-0.03
	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Hours: 0-29 hours per week	-0.02	-0.02	-0.01	-0.00	0.05	-0.03	-0.13***	0.03
(Ref: 36-40 hours per week)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)
30-35	0.07	-0.01	0.05*	0.02	-0.03	-0.02	-0.01	-0.02
	(0.04)	(0.03)	(0.0261)	(0.0358)	(0.05)	(0.04)	(0.04)	(0.05)
41-29	0.14***	-0.03	0.03	0.19***	-0.03	-0.07*	0.03	-0.09**
	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
50+	0.22***	-0.05	0.04*	0.35***	0.02	-0.05	-0.01	-0.08*
	(0.05)	(0.03)	(0.02)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)
Contract: Temporary	-0.14***	0.11**	-0.08	-0.03	0.15***	-0.02	0.07	0.17***
(Ref: permanent)	(0.04)	(0.05)	(0.06)	(0.04)	(0.05)	(0.06)	(0.07)	(0.06)
Fixed	-0.00	0.23***	0.07*	0.11	0.12*	0.05	0.06	0.07
	(0.08)	(0.08)	(0.04)	(0.12)	(0.07)	(0.09)	(0.08)	(0.09)
Occupation: Professionals	0.02	0.08*	-0.07**	-0.00	0.02	0.01	-0.01	-0.10**
(Ref: managers)	(0.05)	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
Technicians	-0.00	0.08***	-0.05**	-0.04	-0.07	-0.10**	0.03	-0.13***
	(0.05)	(0.03)	(0.02)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Clerks	-0.08*	0.02	-0.06*	-0.10***	-0.16***	-0.11**	-0.14***	-0.19***
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)
Service and sales workers	-0.19***	0.04	-0.05*	-0.07	-0.19***	-0.06	-0.01	-0.13**
	(0.04)	(0.03)	(0.03)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Skilled agriculture/fishery	0.10	0.13	0.03	-0.30***	-0.11	-0.15	-0.04	-0.02
	(0.18)	(0.13)	(0.06)	(0.10)	(0.16)	(0.17)	(0.17)	(0.13)
Craft workers	-0.14**	0.06	-0.08***	-0.07	-0.21***	0.01	-0.20**	-0.18***
	(0.06)	(0.04)	(0.03)	(0.06)	(0.07)	(0.07)	(0.08)	(0.05)
Plant and machinery	-0.18***	0.07	-0.18***	0.02	-0.22***	-0.07	-0.17**	-0.24***
	(0.06)	(0.05)	(0.04)	(0.05)	(0.07)	(0.06)	(0.07)	(0.07)
Elementary	-0.16***	0.07*	-0.06*	-0.11**	-0.19***	-0.06	-0.14**	-0.22***
	(0.05)	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.06)	(0.06)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skill development
Industry: Energy	0.16	-0.07	-0.07	0.12**	0.23**	0.15	0.11	0.21**
(Ref: manufacturing)	(0.10)	(0.06)	(0.06)	(0.06)	(0.11)	(0.18)	(0.10)	(0.10)
Construction	0.03	0.02	0.03	0.02	0.06	0.00	0.18**	0.13**
	(0.05)	(0.04)	(0.02)	(0.05)	(0.08)	(0.06)	(0.08)	(0.06)
Wholesale and retail	-0.10	-0.02	-0.01	-0.00	-0.12*	-0.09*	-0.13*	-0.06
	(0.06)	(0.04)	(0.03)	(0.05)	(0.07)	(0.05)	(0.07)	(0.07)
Hotels and restaurants	-0.03	-0.02	-0.00	0.11**	0.06	-0.08	-0.08	-0.01
	(0.07)	(0.06)	(0.04)	(0.05)	(0.08)	(0.07)	(0.10)	(0.08)
Transport and commun.	0.12	0.33**	0.06	0.21*	-0.13**	-0.07	-0.27***	-0.14
	(0.16)	(0.14)	(0.06)	(0.11)	(0.07)	(0.08)	(0.11)	(0.10)
Financial services	0.05	0.02	-0.11*	-0.09	-0.24***	0.03	0.06	-0.17**
	(0.12)	(0.10)	(0.05)	(0.11)	(0.08)	(0.05)	(0.16)	(0.08)
Other business	-0.05	0.02	-0.01	0.09**	-0.00	-0.05	0.06	0.06
	(0.06)	(0.04)	(0.02)	(0.04)	(0.05)	(0.05)	(0.06)	(0.05)
Education	0.01	-0.05	0.01	0.06	0.01	-0.07	0.20**	0.17**
	(0.08)	(0.06)	(0.04)	(0.06)	(0.08)	(0.07)	(0.08)	(0.08)
Health	-0.08	-0.05	-0.02	0.08	0.07	0.03	0.28***	0.26***
	(0.08)	(0.06)	(0.03)	(0.05)	(0.07)	(0.05)	(0.08)	(0.07)
Other community services	-0.11*	0.00	0.03	0.13**	0.05	-0.05	0.02	0.10
	(0.06)	(0.06)	(0.04)	(0.05)	(0.07)	(0.06)	(0.08)	(0.06)
Capital city: yes	-0.07*	0.01	0.05**	-0.01	0.06	-0.06	-0.05	-0.01
	(0.04)	(0.05)	(0.02)	(0.04)	(0.04)	(0.04)	(0.06)	(0.05)
Workplace age: 5 to 9 years	-0.02	0.05	-0.01	0.01	0.04	0.03	0.29***	0.01
(Ref: less than 5 years)	(0.06)	(0.05)	(0.04)	(0.05)	(0.08)	(0.07)	(0.09)	(0.06)
10 to 19 years	-0.04	0.05	-0.05	0.03	-0.01	0.01	0.20**	-0.05
	(0.06)	(0.04)	(0.03)	(0.04)	(0.07)	(0.06)	(0.08)	(0.06)
20 to 49 years	-0.02	0.08**	-0.05*	0.06*	-0.02	0.01	0.16**	-0.05
	(0.05)	(0.03)	(0.03)	(0.04)	(0.07)	(0.05)	(0.08)	(0.06)
50+ years	0.01	0.06	-0.07**	0.12**	-0.12	-0.03	0.15*	-0.14**
	(0.06)	(0.04)	(0.03)	(0.05)	(0.08)	(0.06)	(0.08)	(0.06)

(continued)	Job demand	Job insecurity	Job autonomy	Low work-life balance	Manager-employee Relation	Skills matched to a job	Training received	Skills development
Family ownership: 25% of equity capital	0.02	-0.05*	-0.01	0.01	0.05	0.03	0.01	0.01
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)
Foreign ownership: yes	-0.06	0.01	-0.03	0.05	-0.07	-0.06	-0.04	0.03
	(0.05)	(0.07)	(0.03)	(0.04)	(0.05)	(0.05)	(0.06)	(0.05)
R-squared	0.12	0.07	0.07	0.15	0.09	0.06	0.15	0.10
Number of firms	310	310	310	310	310	310	310	310
Observations	2,304	2,256	2,322	2,323	2,307	2,321	2,315	2,295

Notes: Weighted OLS regressions controlling for the workforce composition. Dummies for missing observations are not presented. Standard errors in parentheses.

Base: WERS (2011). All employees with at least 12 months of tenure, in private sector workplaces with less than 100 employees, with no missing data on separate dimensions of job quality. Key to statistical significance: *** p<0.01; ** p<0.05; p<0.1.

Chapter 3[36]

Should We Clash or Should I Go? The Impact of Low Wage and Bad Working Conditions on the Exit-Voice Trade-off

1. Introduction

Hirschman's seminal book *Exit, Voice and Loyalty* (1970) is typically invoked in order to understand workers' strategies on coping with their wage and working conditions. Nevertheless, the mechanisms at the core of Hirschman's book are rarely analyzed precisely and tested empirically. Hirschman does not deal with labour markets and concentrates mainly on consumers dissatisfied by the price and the quality of a product. In such situations, consumers must choose between two options, exit or voice. Economics traditionally stresses the importance of exit as the basic market mechanism: firms adapt to consumers' exit through price adjustment. On the contrary, Hirschman stresses the fact that the voice strategy may be more efficient than exit. This is the case when consumers are primarily dissatisfied with the quality of a product. The reason for this is that voice conveys more information than exit and therefore helps firms to react to dissatisfaction.

The aim of this paper is to adapt Hirschman's model to labour markets. In the labour market, quitting, collective action, wages, and job quality can be considered as direct equivalents of exit, voice, price, and quality of products on the market for goods and services respectively. When do workers choose to take part in collective action? When do they quit? Transposing Hirschman's model into the labour market predicts that dissatisfaction with pay should favour quitting while dissatisfaction with working conditions should favour collective action. The central mechanism relies on the information exchange at stake within those two strategies. Job quality is a multidimensional, and partly subjective phenomenon that is much more complex than information about pay. A worker will know much more about the pay in a new job than about the working conditions. Changing jobs mainly to improve working conditions is much more uncertain than changing to improve pay. Inversely, collective protest about working conditions gives some objectivity to the grievance and presses employers to take the problem into account and to respond with some improvements.

[36] Chapter 3 was developed together with Olivier Godechot. The collaboration was based on the agreement that the chapter would be submitted to an academic journal in co-authorship. A shorter version of the chapter is available as a discussion paper online.

The study of this trade-off draws on three different surveys in France and Britain that contain questions on quits and participation in collective action over the preceding years: the British 2004 and 2011 WERS surveys (establishment panelized), the French 2004-2005 and 2010-2011 REPONSE surveys (establishment panelized) matched with DADS and DMMO-EMMO administrative data and the French SalSa survey (2008-2009), a cross-sectional file matched with the administrative DADS panel.

This study statistically estimates the impact of pay_{t-1} and job $quality_{t-1}$ on participation in collective $action_t$ on the one hand, and on $quits_t$ on the other. Furthermore, we investigate the consequences of those two strategies on either pay increase or on job quality improvement.

We show that facing worse working conditions increases the probability of voice, and facing lower wages increases the probability of quitting. We find also that exit does increase pay, but we find no evidence that voice improves working conditions or wages.

The rest of the chapter is organized as follows: the second section deals with previous research concerning the exit-voice trade-off and shows that the issue of job quality was never fully addressed in exit-voice framework; the third section provides a more in-depth analysis of this trade-off and sets up a testable hypothesis; the four section presents the method; the fifth section analyses the results; and the chapter ends with a discussion on the scope and the limits of these results.

2. Review of the literature

An important amount of literature has been published in employment relations field using Hirschman's exit-voice theory over the past 30 years. A large and growing body of literature has investigated the impact of voice on the likelihood of exit (Freeman, 1980; Freeman and Medoff, 1984; Miller and Mulvey, 1991). Many studies have shown that by giving the opportunity of voice rather than that of exit, employers would benefit from a reduced turnover. But while quality is at the core of Hirschman's book (Willman *et al.*, 2009; Barry, 1974; Dowding *et al.*, 2000), this important aspect remains untested when the concepts of voice and exit are applied to the labour market.

Freeman and Medoff's seminal book "What do unions do?" (1984) is one of the first original contributions to Hirschman's exit-voice model. The authors adapted Hirschman's exit-voice model to the job market and examined unions in a form of collective voice strategy within firms, which go beyond negotiating wage increase above the competitive level. The scholars showed that voice has a positive impact on wage increase and it reduces labour turnover ('exits' or 'quits')

even though the process of reaching resolutions may be conflictual. These predictions have been confirmed at micro-level studies in Britain (Bryson and Forth, 2009; Bryson *et al* 2013), in Australia (Miller and Mulvey, 1991) and to some extent in a comparative perspective between France and Britain (Coutrot 1998).

Relating voice with unionisation was an innovative contribution, however, Hirschman does not employ unionisation in his conceptual framework. The original definition of voice is described as a two-way communication between the organisation (employer) and the consumer (employee), and it does not involve institutional element in the exit-voice theoretical model. Identifying voice with trade unions might be misleading as union presence is an institutionalized variable and it does not reflect the clear expression of employee voice. Furthermore, most of these scholars failed to consider the impact of voice on quality improvement as a non-wage effect.

Another strand of the literature examined how individual characteristics and working conditions of employees contributed to quitting. Adverse working conditions have been found to increase quits. However, these studies do not consider the responses of employees with regard to their working conditions at the workplace, and they use industry injury rates or work attributes typical of different occupations (for example, Viscusi, 1979; Bartel, 1982; Gronberg and Reed, 1994). Extensive analysis of employee turnover has been carried out in labour economics to explain quitting behaviour by job satisfaction scores but without information on job quality (for instance, Freeman, 1978; Ophem, 1991; Clark, 1997; Kristensen and Westerdaard-Nielsen, 2004; Levy-Garboua *et al.*, 2007; Gazioglua and Tunsel, 2006; Shields and Price, 2002). These studies show that job satisfaction is a powerful predictor of separations and quits, and that dissatisfied workers are more likely to separate from their jobs. For example, an innovative contribution by Böckerman and Ilmakunnas (2009) shows that adverse working conditions increase the perception of job dissatisfaction and this in turn leads to actual quitting behaviour.

More recent studies started to take advantage of the availability of detailed data on workplace-specific attributes, and introduce in the models individual and job characteristics such as sector, industry, firm size, type of contract, occupation, and firm tenure provided by the worker at the time of the survey (Cottini *et al.*, 2011; Garcia-Serrano, 2004). For example, Cottini *et al.* (2011) use Danish linked employer-employee data and show that hazardous working conditions contribute to higher voluntary quits but High-Involvement Work System reduce employee turnover. Although these studies contributed enormously to employee turnover literature by showing the relation between adverse working conditions or job dissatisfaction and quitting, but these studies have not taken into account the strategy of voice. Wood (2008) argues that scholars

have not paid enough attention to the question of organisational empowerment known in the industrial relations literature as employee voice. Employee voice may play an essential role to reduce the dissatisfaction of workers as voice strategy expresses the grievances of workers in the expectation that the management will make changes.

Voice strategy has also been discussed in a form of the employment contract (Willman *et al.*, 2009) which involves sunk and switching costs both for employees and employers (Williamson, 1973). Willman *et al.* (2009) show that there is a positive association between voice mechanisms and desirable workplace outcomes which may imply that the costs of voice could be lower than the benefits. Even though Willman *et al.* (2009) highlight the importance of examining the positive aspects of non-union voice at the workplaces, they miss to examine how employees react to a decline in working conditions.

The benefits of voice strategy have also been associated to improved motivation, commitment, and team working (Hammer, 2000). The scholars highlight the importance of studying direct worker participation as a voice mechanism in organizational decision making processes, which should consequently influence the quality of work and contribute to organizational effectiveness. However, testing the impact of poor working conditions on direct voice remains still untested in these studies.

The aforementioned papers made valuable progress in investigating various effects of voice strategy on variables such as quit rates and workers' performance, but to our knowledge no research has surveyed nor empirically explored the direct influence of job quality on the exit-voice strategy. Job quality is at best approached indirectly through work satisfaction or feelings of justice. Therefore, current chapter aims to fill the gap in the literature by seeking first to examine and to measure the role of job quality in shaping the exit-voice strategy, and second to assess the consequences of those strategies on either pay increase or job quality improvement.

3. Expectations

The theoretical arguments are based on a more systematic specification of cost and benefit factors and of available information on wages and job quality in alternative jobs, as well as on the comparative evaluation of the outcomes associated with the two alternatives: exit or voice.

Workers coping with poor working conditions

What happens when workers are dissatisfied with the job quality? On the one hand, voice could seem more costly than exit, as it is costly to spend time and energy in order to influence a firm and obtain improvements. On the other hand, information on the quality of alternative options is poor and change is risky. A way of modelling Hirschman's view on exit would be to

consider the combination of risk aversion and of random walk expectations on quality: when signing a new contract, expectancies on undisclosed quality are based on the quality experienced in the current contract ($E(Q_{t+1})=Q_t$). Chances of improvement equate chances of degradation. On the contrary, voice strategy conveys collective—and therefore more objective—information to the firm and offers it a much more precise way to react to dissatisfaction than does exit. Chances of improvement are therefore positive.

For consumer markets, Hirschman (1970) argues that buyers will favour voice for more complex goods (such as schooling) and complex quality problems (such as car security issues). In such cases, disclosed information on quality is a small proportion of information on quality. Informational problems potentially exist to some degree in all markets (Akerlof, 1970; Akerlof 2002) and for any goods. As such, the consumer has a choice between searching for another good and attempting to obtain information about the good's qualities (Nelson, 1970). In the labour market, the cost of trying a new job in order to obtain information about its quality is generally more substantial than for most consumer goods, both because job quality is generally more complex than the quality of a good and because it cannot be assumed to be stable.

Hirschman (1970) argues, moreover, that the voice option is chosen more often when exit is difficult, costly, and unavailable. Therefore, if employees do not have other exit options—because of the local rate of unemployment, for instance—they will use voice to communicate the decline of job quality even more.

We thus formulate our first hypothesis:

H1: Low quality of work favours collective voice.

Hirschman's argument does not suggest that dissatisfaction with job quality will never lead to the choice of exit by employees. In some situations, the cost of voice is too substantial and disclosed information about the quality of alternative options is sufficient to make exit a valuable strategy. Hirschman's argument implies rather that the internalization of the costs and the benefits of exit and voice make the voice strategy a more likely one than the exit strategy on the whole. In discussing institutional alternatives for quality improvement, Hirschman (1974) discusses the paper by Nelson and Krashinsky (1972) in which they argue that there is a disproportion of knowledge between buyers and sellers. They argue that buyers lack information about the quality of a product and sellers have a dominant role in ignoring the component of quality. In the labour market, there is the similar problem of a disproportion of knowledge concerning the standard of quality of work between employers and employees. In this context, the institutional question is not about how to protect an employee, but rather how to "*educate*" an employer by providing him with information on his performance. Voice has an important role in

such situations because it provides rich and detailed information in comparison to exit. Furthermore, exit may not even convey the existence of discontent with the job quality.

Employers' ignorance or substantial degree of ignorance about satisfying certain demands is a common subject of discussion. At first sight, it seems that if an individual is not satisfied with the job quality of a given enterprise, he is more likely to exit. But the individual who has a poorly articulated complaint with respect to job quality is advised to help the organization and to intensively collaborate with the management through the active use of voice. Hirschman argues that voice rather than exit is recommended for poorly understood problems because it transmits direct feedback about overlooked poor job quality.

Confronted with a collective complaint about the job quality, an employer can improve working conditions through three channels: by improving the working conditions, by compensating for the working conditions with a pay increase (Smith; 1776; Rosen, 1986), or by offering a combination of these two improvements. We expect the solution of this arbitrage to depend on the relative cost of work improvement and of differential compensating. When working conditions are very bad, we can assume that the cost of improving them is lower than the cost of compensating for them.

H2: Collective voice improves job quality.

Workers coping with low pay

Let us now discuss the strategies adopted by those who are dissatisfied with their pay. The complexity of the labour market, the imperfection of information, the magnitude of transaction costs, and the decentralization of the labour market lead to a multiple price equilibrium (MacLeod, Malcomson, 1993). The wage offered for the same job and the same worker characteristics is not unique and can be viewed as a statistical distribution. Workers who *ceteris paribus* earn lower wages are more likely to find rival offers that will improve their wage among other firms. Inversely, those with higher wages are less likely to find better offers.

Contrary to employees dissatisfied by the job quality, employees dissatisfied with their pay generally have information about the salary offered by other jobs. Acemoglu (2001) thus argues that workers generally benefit from information about which industries pay higher wages. Furthermore, pay is generally the first informational element that will be disclosed and discussed during recruitment. This simple statistical phenomenon enables us to formulate the two following hypotheses.

H3: Low pay favours exit.

H4: Exit improves salary.

Collective voice is also viewed as a traditional working class means to increase wage. Nevertheless, participation in collective voice is costly, and its cost depends on collective coordination. Its success rate is limited and one cannot be sure that one will benefit from a pay increase following participation in collective voice. On the contrary, quitting does not require much collective coordination, and when an employee exits for another job, he has accurate information on the presumably higher salary offered by his next firm.

4. Descriptive Evidence

4.1 Strategy

In this section we will focus in more detail on two dependent variables: voice and exit. In WERS survey, the strategies of voice and exit are captured by establishment level variables. The managers were asked to report which forms of industrial action had taken place at the workplace during the previous 12 months: strikes of less than a day, strikes of a day or more, overtime ban or restriction, work to rule, other industrial action or none. Other voice variables are also available like disputes, threat of strikes, ballots, disruption and application at employment tribunal (Table 1). For the purpose of the analysis, we use as our main voice variable the occurrence of a strike during the last 12 months (as the combination of strikes of less than a day and those of a day and more). This collective action took place in 17 per cent of the workplaces of the 2004-2011 WERS panel.

The exit rate at the workplace level in 2010 was calculated as the ratio of total number of voluntary exits to the total number of employees. In average, 8 per cent of British workplaces in the WERS panel experienced voluntary exits (Table 2).

In the REPONSE survey (2011) managers were asked to report which forms of dispute their establishments experienced in the last 3 years (2008-2010): stoppage, strikes of less than two days, strikes for more than two days, go-slow strike, work-to-rule, slowdown of production, refusal to work overtime, assembly, demonstration and petition (Table 3). Stoppage and strikes of less than two days appear to be the most common strategies. In the REPONSE survey we observe private sector establishments whereas traditional national strikes happen more often in the public sector (Béroud *et al.*, 2008). This may explain why the proportion of strikes is low in the REPONSE survey. We use also as voice variable the occurrence of a strike in the workplace during the last three years, an event that happened in 33 per cent of the workplaces.

In the employee survey, employees were also asked individually whether they had participated in a work stoppage or in a strike between 2008 and 2010. We will use this variable as our voice variable at the individual level.

As we explained previously, we can calculate the voluntary exit rate at the workplace using labour flows data. In the DMMO-EMMO surveys we have quarterly voluntarily exits from employment in 2006. First, we calculated the number of voluntary exits for 2006, and then we divided it to the total number of employees to obtain yearly exit rate. In average, 4.3 per cent of workplaces in the REPONSE panel experienced voluntary exit (Table 4).

Table 1. Voice and exit strategies in the WERS survey (2011)

Which, if any, of the forms of industrial action on this card have taken place at this workplace during the last 12 month?

	Yes	**On how many occasions (if yes)**
1. Strikes of less than a day	3 %	1.35
2. Strikes of a day and more	15 %	1.37
3. Strikes	**17%**	**1.40**
4. Overtime ban or restriction by employees	2 %	4.53
5. Work to rule	3 %	3.00
6. Other industrial action (for example, go slow, sit in)	1 %	1.75
7. None of these	82 %	/
Other voice variables		**Yes**
8. In the last 12 months, has there been a collective dispute with any group of workers over pay or conditions		17%
9. In the last 12 months, have any employees here threatened to start a strike?		14%
10. In the last 12 months, have any unions here balloted their members to establish the level of support for industrial action?		24%
11. In the last 12 months, has this workplace suffered significant disruption as a result of industrial action in another organisation?		2.8%
12. During the last 12 months has an employee or ex-employee of this workplace made an application to an Employment Tribunal?		25%

Notes: 3 per cent of employers reported that in 2011 strike of less than a day had happened at the workplace in the past 12 months.

Source: WERS (panel survey 2004-2011) n= 773

Table 2. Workplace voluntary exit rate (2011)

	Mean	SD	Min	Q1	Median	Q3	Max
Voluntary exit rate	8.0%	11%	0.0%	0.5%	4.6%	10%	86%

Notes: In average, 8 per cent of British workplaces in the WERS panel experienced voluntary exits.

Source: WERS(panel survey 2004-2011) n= 715

Table 3. Voice and exit strategies in the REPONSE survey

Which types of conflicts did it happen in the establishment between 2008 and 2010?				
	More than 5 times	**From 3 to 5 times**	**From once to twice**	**Never**
1. Stoppage	11%	6%	14%	68%
2. Strikes of less than 2 days	9%	7%	13%	71%
3. Strikes of more than 2 days	1%	1%	7%	90%
4. Go-slow strike	1%	1%	2%	96%
5. Work-to-rule, slowdown	0%	0%	2%	98%
6. Overtime ban	3%	2%	4%	91%
7. Assembly, demonstration	6%	4%	12%	77%
8. Petition	2%	3%	20%	75%

Other voice variables	**Yes**
9. At least one strike in the firm (constructed out of 2 and 3)	33%
10. Employee making an application to an Employment Tribunal	51%
11. Absenteeism is a problem	43%
12. Strong tensions between subordinates and supervisors	36%
13. Individual participation between 2008 and 2010 in a work stoppage # (stoppage or strike) (n=2579)	**22%**

Notes: 11 per cent of employers reported that between 2008 and 2010 stoppage had happened more than 5 times.

Source: DARES, REPONSE (panel survey 2004-2011). n=805 except agriculture, fishing and minery.

Table 4. Workplace voluntary exit rate (2006)

	Mean	SD	Min	Q1	Median	Q3	Max
Voluntary exit rate	4.3%	6.0%	0.0%	1.1%	2.6%	5.6%	62%

Notes: In average, 8 per cent of British workplaces in the WERS panel experienced voluntary exits.

*Source***:** REPONSE, DMMO-EMMO (panel survey 2004-2011) n= 597

We also examined the descriptive statistics of voice variable in the *SalSa* survey. In the *SalSa* survey, the Hirschmanian notion of *voice* is best captured by a question asking if the employee participated in some form of collective action such as a strike, demonstration, or petition (Table 5). 23 per cent reported such collective participation. This strategy, although traditionally viewed as "working class," is not the most frequent among blue-collar workers; it can be measured in all occupations, with a peak among *technician* type workers. *SalSa* also gives subjective indications regarding the outcome of the mobilization. Almost a quarter of those who participated report an improvement of their pay and a little more than a quarter report other improvements[37].

[37] The two improvements are positively correlated: 9 per cent enjoyed both improvements, 15 per cent, pay improvement only, 17 per cent other improvements only and 59 per cent no improvements at all.

SalSa has several *exit* strategy proxies. Our main variable is given by a question asking if the respondent ever voluntarily left his job in the past five years (Table 5). 18 per cent of employees responded that they had voluntarily left their jobs in past five years. Quitting is quite common and evenly distributed among all social categories of wage-earners. We only observe a peak of this strategy among non-qualified blue-collar workers, which is coherent with what we know about turn-over (Kraft, 1986).

In the SalSa survey employees were also asked whether or not they had quitted their jobs to obtain a better wage. Therefore, we know that 42 per cent of those, who quitted, did so in order to obtain a better wage. A second measure is given by the subjective intention of quitting. In January 2009, 16 per cent of the workers wanted to quit, half of them for a better wage (Table 5). Nevertheless, we must be cautious when interpreting this variable. There might be a gap between the intention to quit and its realization. As such, the worker needs to find another option by which he can improve his situation.

Thanks to the DADS, we have one measure of exit, given by the people who changed firms between the time of the interview (December 2008 or January 2009) and the end of the year 2009. We know only if the respondent changed firms, but we do not know if he did so voluntarily (quit) or if it was non-voluntary (dismissal, outsourcing, or even a move between two different subsidies of the same conglomerate). In order to limit the number of dismissals, we count only change of firms separated by less than three months after the end of the contract with the first firm. We believe that this variable, although not perfect, is a fair representation of voluntary quits in 2009. The interest of this variable is that it reports an event that occurred after the survey, thereby enforcing causal interpretations of survey variables on its occurrence.

Table 5. Voice and exit strategies in SalSa

	Yes	No	Does not know
1. During the last five years, did you participate in a collective action (strike, demonstration, petition) linked to your work? (n=3117)	23%	76%	1.0%
2. [If Yes at 1] Consequent to this collective action, did you get a wage increase, a bonus or a promotion? (n=704)	23%	74%	2.7%
3. [If Yes at 1] Consequent to this collective action, did you get another improvement? (n=704)	26%	70%	4.2%
4. In the last five years, have you ever voluntarily left your job? (n=3117)	18%	81%	0.5%
5. [If Yes at 4] Last time, was it for a better wage? (n=570)	42%	57%	1.2%
6. Do you plan to voluntarily leave your job now? (n=3117)	16%	82%	2.3%
7. [If Yes at 6] Is it essentially for a better wage(n=504)	50%	46%	4.6%
8. Changed firms in 2009 after the *SalSa* survey (n=3117)	5.7%	94%	

Note: 22.6 per cent of the 3117 respondents participated in a collective action at least once in the five years before the survey.

Source: *SalSa* (Insee, ANR, CMH, CREST, 2009).

Finally, table 6 describes the correlation between the variation of exit rate at the workplace and voice strategies in the three surveys. As expected by previous literature (Freeman, 1984), we find a strong negative correlation between exit and voice strategies in the three surveys. In the three surveys exit rate is lower in the workplaces where voice action happened than in the workplaces where there was no incidence of voice. In the WERS survey workplace exit rate was 5 per cent in the workplaces, where voice strategy had occurred, and 9 per cent in the workplaces, where no voice had happened. In the REPONSE survey the exit rate in 2006 was 3 per cent in the workplaces where voice strategy happened between 2008 and 2010, and 5 per cent in the workplaces where voice did not happen between 2008 and 2010. If we examine the voice variable from the employee survey (2010), the exit rate in 2006 was 3 per cent in the workplaces, where employees had participated in any type of collective action between 2008 and 2010 such as strikes, demonstration, signing petition, and 4 per cent in the workplaces where employees did not participate in any collective action. Finally, in the SalSa survey we can find the same relation. 11 per cent of those, who voiced, they also exited, whereas 19 per cent of those, who did not voice, they exited their firm. Several mechanisms might explain this negative correlation.

Table 6. Exit voice trade-off. Variation of exit rate depending on the use of voice strategy

Workplace (or individual) recently voicing → Survey	Yes	No	ΔT. Test	Correlation coefficient
WERS : 2011 workplace exit rate depending on strikes declared in 2011	4.5%	8.7%	***	-0.14***
REPONSE : 2006 workplace exit rate depending on strikes declared in 2011 at the establishment level	2.6%	5.4%	***	-0.23***
REPONSE : 2006 workplace exit rate depending on voice declared at the individual level	2.1%	4.4%	***	-0.19***
SalSa : Exit at the individual level depending on voice declared at the individual level	11%	19%	***	-0.09***

Key to statistical significance: ***p < 0.001, **p < 0.01, *p < 0.1

4.2 Independent variables

Poor working conditions

The literature on job quality considers subjective and objective approaches. 'Subjective' approaches are inspired from the utilitarian tradition in philosophy and economics and argue that the best way to know about employees' working conditions is to ask them directly how satisfied they are with it (Stride *et al*., 2007; Clark, 2011). The 'objective' approach in economics has been developed by Sen (1999) who suggests defining well-being of individuals in relation to 'capabilities' of achieving certain things. Green (2006), following Sen's approach, discusses several key factors of quality of work: pay, skill, effort intensity, risk of personal harm and job loss and personal discretion. However, scholars among objective approach do not come to a universal agreement over which items to include in the definition of job quality or how to weight them in constructing a multi-dimensional measure. In answering the question which dimensions of work should be included in the definition of worker well-being, Budd and Spencer (2014) propose a comprehensive approach which integrates specific job characteristics that reflect the full range of meanings that work can have for individuals and societies. These job characteristics can involve both subjective and objective dimensions and give the possibility to policy-makers to evaluate the strengths and weaknesses of each of them.

In the current chapter we use three surveys which ask somewhat different questions about particular working conditions. We build a composite variable of poor working conditions as it offers the opportunity of comparing responses across surveys in a relatively simple way. The composite variables of poor working conditions integrate both objective and subjective dimensions of job quality.

In order to build our index of poor working conditions in the WERS (2004) survey, we use the following variables from employee survey (2004): "My job requires that I work very hard" (Strongly agrees or agrees: 75 per cent), "I never seem to have enough time to get my work done" (Strongly agrees or agrees: 41 per cent), "Influence what tasks you do in your job" (Little or none : 26 per cent), "Influence on how you do your job" (Little or none : 15 per cent), "Satisfaction with the work itself (Very dissatisfied or dissatisfied : 9 per cent), "How much of the time the job made you feel tense over the last few weeks" (All or most of the time : 19 per cent), "Relations between managers and employers here" (Very poor and poor: 15 per cent). (Appendix 1 presents the correlation matrix).

We believe that these seven questions give a balanced picture of the dimensions of poor working conditions. We constructed the index by adding together the worst items of our seven questions. In order to give equal importance to each item in the variance of the index, we standardized each of these items with its standard deviation. Poor working conditions index at the establishment level is the establishment weighted mean of the index at the individual level.

All those questions are available and identical in the WERS 2011 and enable to construct the evolution of the working conditions. "My job requires that I work very hard" (Strongly agrees or agrees: 82 per cent), "I never seem to have enough time to get my work done" (Strongly agrees or agrees: 42 per cent), "Influence what tasks you do in your job" (Little or none: 21 per cent), "Influence on how you do your job" (Little or none : 15 per cent), Satisfaction with the work itself (dissatisfied: 8 per cent), "How much of the time the job made you feel tense over the last few weeks" (All or most of the time : 18 per cent), "Relations between managers and employers here" (Very poor and poor: 61 per cent).

The REPONSE (2004) employee survey does not have very detailed questions on objective working conditions but provides a global question on working conditions that can be interpreted as a global subjective evaluation. "Do working conditions limit your involvement at work?: Yes absolutely (23 per cent), yes somehow (33 per cent), not really (26 per cent), not at all (17 per cent). We use this four scale ordinal variable as a continuous one (ordered from good to bad conditions). In order to measure the impact of voice on quality change, in REPONSE (2011) we use a four scale that measures the degree of satisfaction with working conditions (very satisfied: 14 per cent; rather satisfied: 55 per cent; rather unsatisfied: 25 per cent, very unsatisfied: 6 per cent).

In the SalSa survey we built the index BQ_{2008} with the negative items of the six working conditions variables contained in the 2008-2009 *SalSa* survey. These variables are high-speed work (all the time: 43 per cent), physically hard work (yes: 37 per cent), mentally hard work (yes:

64 per cent), dangerous work (yes: 27 per cent), convenient working schedule (no: 17 per cent), and the fact of liking the work (Sometimes and never: 10 per cent). (Appendix 2 presents the correlation matrix).

Unfortunately, the survey only provides us information on poor working conditions at the end of 2008, and there is no information on poor working conditions in the panel DADS either. This may be problematic when we use our 2008 working-conditions index in order to explain a work-improving strategy employed in the last five years—that is, between 2003 and 2008. We therefore have a clear temporal bias. From this point, two approaches are possible.

The first consists in using our 2008 poor working conditions index (PQ_{2008}) as a proxy for the bad quality in 2003 PQ_{2003}, before the occurrence of the work strategy. This option is reliable if the given strategies had a rather negligible impact on the poor working-conditions index measured. However, if the strategy did effectively improve working conditions, we would be underestimating the impact of quality on the strategy. If our Hirschmanian theory is correct, this would lead to an underestimation of the role of quality on voice much more than that of quality on exit.

The second approach consists in using imputation techniques (Schafer and Graham, 2002) in order to get an estimation of PQ_{2003}—poor working conditions in 2003. We can model PQ_{2008} with the 2008 variables, and hypothesize that the parameters will also be correct for 2003 (See Appendix 3).

Pay

In the WERS (2004), employees declare their weekly pay and their number of hours out of which we compute the hourly pay. In order to test the impact of pay (2004) on strategy, we aggregated the weighted mean of the log hourly wage (2004) at the establishment level.

In the REPONSE (2004) employee survey hourly wages of employees were included from the administrative survey DADS. We aggregated similarly the weighted mean of the log hourly pay at the establishment level.

The great advantage of *SalSa* is that we have details about employees' full careers. Here, we take into account the net *salary* of individuals (firm declared) and the number of working hours (firm declared, as well) in order to compute the log hourly wage. This variable is calculated both for 2003 and 2008.

Other control variables

Both in the WERS and REPONSE surveys weighted means have been calculated for individual control variables (gender, tenure, age, number of working hours, education, and occupation) and then aggregated weighted means have been calculated for all establishments in

the panel surveys. WERS survey includes the proportion of managers, technical workers and service occupations at the establishment level. The WERS (2004) employee survey also includes information on the type of contract: permanent, temporary – with no agreed end date, fixed period – with an agreed end date. The aggregated weighted means of these categories are also controlled at the establishment level. At the workplace level we controlled for workplace size and industry.

Finally, in order to test the impact of strategy on pay increase or quality improvement we controlled for the change in the business volume in 2011.

In the *SalSa* survey the strategy models contain continuous variables such as *age* as well as categorical variables such as *gender*. *Education* is measured with a six level nomenclature: elementary education, professional technical degree, high school degree, 2 years of college, bachelor's degree, and master's degree and above. These variables are measured in the 2008/2009 survey. Apart from age, which we can compute for 2003, we assume that the respondent did not change in these aspects and that they are good proxies of the 2003 situation.

Occupation. We rely on French occupation nomenclature (firm declared), which gives us a five level variable: managers and professionals (CS=3), technicians and assimilated workers (CS=4), clerks (CS=5), qualified blue-collar workers (62≤CS≤65), and non-qualified blue-collar workers (66≤CS≤69). This variable is available both in 2003 and in 2008.

5. Empirical strategy

The empirical analyses consist of two parts. First, we explore the links between poor working conditions and pay in *t-1* and the strategy declared in *t* and that occurred sometime between *t-1* and *t*. Therefore the basis model we want to estimate can be written in the following form:

$$P(Y_i=1)=f(b_0+ b_1.BQ_{t-1} + b_2.log(w_{t-1}) + ... + b_k .x_{k,(t-1)} + ... + u) \qquad (1)$$

where Y_j represents the strategy variables at time t, $\log(w_j)$ is log hourly pay at (t-1) and BQ_{t-1} is the index of bad working conditions at (t-1), and $x_{k(t-1)}$ are control variables. When the dependent variable is dichotomous (as for all voice variables and individual exit variables in Salsa), we estimate our models based on logistic regressions (and *f* stands for the logistic function). When it is an establishment average rate (as for exit variables in WERS and REPONSE), we use OLS regressions (and *f* stands for the identity function).

It is detrimental in this model that pay and poor working conditions not to be estimated after the strategy occurred. A post-treatment estimation would be all the more biasing that we made

the hypothesis for the strategies to precisely impact in return our variables of interest (H2 and H4).

This condition is clearly respected thanks to establishement panelized surveys in WERS and REPONSE enabling to use at the establishment level 2004 working conditions and pay. Nevertheless establishment level regressions might be biased by ecological fallacy. One could imagine for instance strikes to occur in establishment with bad working conditions but only through the involvement of those workers with good working conditions. Although this mechanism is not very likely, a confirmation of establishment results at the individual level is very welcome.

Unfortunately, estimation of equation (1) is not directly possible at the individual level as we do not have *t-1* individual working conditions in REPONSE and SalSa. Using those variables in *t* would create a clear temporal bias. In REPONSE, we have two solutions to avoid it. First, we use *t-1* establishment working conditions and pay. Second, we also instrument *t* individual interest variables with their respective *t-1* establishment variables. In SalSa, our solutions are not as good and results should be considered more cautiously. We either use *t* working conditions variables, provided the temporal bias is negligible. We also impute *t-1* working conditions thanks to a regression model of working conditions estimated in *t* and to the value of its main variable in *t-1* (cf. Appendix 3).

For the second part of the analysis we test the impact of strategy Y_t either on the improvement of working conditions or on pay increase. We calculate the improvement of working conditions which is the reverse difference between working conditions at time t and working conditions at t-1[38]. Afterwards, in order to see the impact of strategy on pay, we also compute pay increase from 2003 to 2008 as the difference between the logarithm of 2008 hourly wage and the logarithm of 2003 hourly wage.

Final equations will have the following form:

$$\Delta_{[t,\ t-1]}.(-BQ_j) = b_0 + b_1.Voice_{[t,\ t-1]} + b_1.Exit_{[t,\ t-1]} + b_k.x_{k,\ [t,\ t-1]} + v_{j,\ t} \qquad (2)$$

$$\Delta_{[t,\ t-1]}.log(w)_j = b_0 + b_1.Voice_{[t,\ t-1]} + b_1.Exit_{[t,\ t-1]} + b_k.x_{k,\ [t,\ t-1]} + v_{j,\ t} \qquad (3)$$

where $\Delta_{[t,\ t-1]}.(-BQ_j)$ represents the improvement of working conditions, and $\Delta_{[t,t-1]}.log(w)_j$ pay increase between *t* and *t-1*.

[38] Evolution of working conditions = $-(Z_{j,\,t} - (Z_{j,\,(t-1)}))$

6. Results

The OLS and Logit models in Table 5 indicate whether poor working conditions or pay are significantly related to strategies of exit and voice. Only variables of interest are reported, and they are standardized in order to measure the impact of one standard deviation increase on strategy. Full regressions of our main models (1, 2, 3, 4, 7 and 8) can be found in Appendices (tables A4, A5, A6).

6.1 Poor working conditions and strategies

Our first hypothesis stated a positive impact of poor working conditions on collective action. This hypothesis is confirmed in all our models both at the firm and at the individual level. One standard deviation of our poor working conditions index multiplies the probability of involvement in a strike in the following years by a factor of 1.2 (SalSa, REPONSE) to 1.5 (WERS).

The results clearly hold at the firm level for WERS and REPONSE (model 1 and 3). At the individual level, it seem to hold (model 7 and 9), but we must remain cautious as the temporal bias of model 7, where working conditions are measured after the collective action, may not be completely handled with our method of simulating precollective action working condition (model 9). We could nevertheless test the role of working conditions at the individual level with REPONSE. Establishment working conditions in t-1 clearly impacts the individual probability of voicing afterwards. One way of measuring the impact of individual working conditions on individual voice is here to instrument 2011 individual working conditions with 2004 establishment measures. Under the strong exclusion hypothesis according to which establishment working conditions impacts individual voice only through its impact on individual working conditions, model 6 shows that at the individual level the impact of working conditions on individual voice could be much more important than that measured at the establishment level.

We also checked for its impact on other voice variables in Appendices (Table A7 and A8). Poor working conditions always have a positive effect on the most frequent voice variables such as in Great-Britain, strikes of one day (by a factor of 1.84), strikes of two days (by a factor of 1.39) and more, dispute (by a factor of 1.25), ballots (by a factor of 1.36), and actions in Employment Tribunal (by a factor of 1.23) (Table A7) and in France participating in stoppage by a factor of 1.29, in strikes for less than two days by a factor of 1.22, in strikes for more than 2 days by a factor of 1.40, in go slow strike by a factor of 1.39, and in signing a petition by a factor of 1.27 (Table A8).

The results based on voice models show that poor working conditions have a positive and significant impact on the probability of participating in collective action. However, poor working

conditions do not appear to be significant in the exit models. Although they impact positively and significantly on intentions to quit (table A9), they do not influence the exits. When we compare the odds ratios in both models, the odds are higher in voice models than in exit ones: in the WERS survey 1.45 compared to 1.03; in the REPONSE survey 1.22 compared to 1.08; in SalSa 1.21 compared to 0.78. These findings are coherent with our Hirschmanian framework; therefore we consider that our hypothesis *H1 holds*.

Table 7. Impact of pay and of poor working conditions on workers' strategies

Dependent Variables →	**Collective action (2011)**		**Exit (2011)**	
WERS - Establishment level	**Model 1**		**Model 2**	
2004 Poor working conditions (establishment weighted mean)	0.40***	[1.45]	0.02	[1.03]
	(0.15)		(0.04)	
2004 Log hourly wage (establishment weighted mean of log pay)	0.11	[1.12]	-0.11**	[1/1.17]
	(0.23)		(0.05)	
Pseudo R2 (logistic) or R2 (OLS)	0.40		0.25	
Number of observations	764		706	
Model	Logit		OLS	
	Collective action (2011)		**Exit (2006)**	
REPONSE - Establishment level	**Model 3**		**Model 4**	
2004 Poor working conditions (establishment weighted mean)	0.20**	[1.22]	0.06	[1.08]
	(0.10)		(0.04)	
2004 Log hourly wage (establishment weighted mean)	0.52***	[1.68]	-0.21***	[1/1.3]
	(0.15)		(0.06)	
Pseudo R2 (logistic) or R2 (OLS)	0.23		0.33	
Number of observations	804		596	
Model	Logit		OLS	
REPONSE - Individual level	**Model 5**			
2004 Poor working conditions (establishment weighted mean)	0.17**	[1.19]		
	(0.06)			
2004 Log hourly wage (establishment weighted mean)	0.40***	[1.49]		
	(0.06)			
Pseudo R2	0.13			
Number of observations	2415			
Model	Logit			
REPONSE - Individual level IV regression	**Model 6**			
2011 Poor working conditions (instrumented with 2004 firm poor working conditions and 2004 firm wage)	0.86*	[4.9]		
	(0.34)			
2011 Log hourly wage (instrumented with 2004 firm poor working conditions and 2004 firm wage)	0.88***	[4.96]		
	(0.18)			
R2	0.14			
Number of observations	2415			
Model	2SLS			
	Collective action (2008)		**Exit (2008)**	
SalSa BQ2008 - Individual level	**Model 7**		**Model 8**	
2008 Poor working conditions	0.37***	[1.45]	0.04	[1.04]
	(0.05)		(0.06)	
2003 Log hourly wage	0.20*	[1.22]	-0.18**	[1/1.2]
	(0.08)		(0.08)	
Pseudo R^2	0.11		0.14	
Number of observations	2466		2476	
Model	Logit		Logit	

Dependent Variables →	Collective action (2008)		Exit (2008)	
SalSa BQ2003 - Individual level	**Model 9**		**Model 10**	
2003 Imputed poor working conditions	0.19**	[1.8]	-0.08	[1/1.28]
	(0.08)		(0.09)	
2003 Log hourly wage	0.15*	[1.16]	-0.16*	[1/1.17]
	(0.08)		(0.09)	
Pseudo R^2	0.09		0.14	
Number of observations	2440		2451	
Model	Logit		Logit	

Parameters are x standardized in logistic regressions and x and y standardized in least square regressions (models 2, 4, 6). Odds ratios are displayed in square brackets. For least squares regressions (models 2, 4, 6), we calculate the odds ratios by comparing the average proportion p and $[p+\beta_x.sd(x)]$ the deviation according to the model when one standard deviation of the interest variable is added. For easing comparisons of magnitudes, we print ratio below 1 as fractions. Control variables in all models include working hours (simple and squared), age (simple and squared), size of the firm, gender, occupation, diploma and industry. In WERS and REPONSE models we can also use tenure (simple and squared) that is not available in SalSa in 2003. In all establishment level models, we use firm weighted mean average of the control variables. In individual level models, we use individual variables. Control variables are not reported here but can be found in tables A4, A5 and A6. Key to statistical significant: ***p < 0.001, **p < 0.01, *p < 0.1

6.2 Pay and strategy

Let us now turn to the examination of the impact of pay on strategies. In all the exit models log hourly pay has a negative and statistically significant impact on quitting. A pay lower by one standard deviation multiplies the probability of exit by a factor of 1.2 (WERS, SalSa) to 1.3 (REPONSE). This result holds both at the establishment level (WERS, REPONSE) and at the individual level in (Salsa), where we can use information on pay in 2003, before the strategy is adopted.

Coherently, bad pay impacts more the probability of exiting in order to have a pay increase than exiting for other reasons (Table A9). It has also a similar impact on intention of quitting, especially that related to pay issues and the exit that happened during the year 2009 (the small number of exits in 2009 shrinks here significance).

According to Hirschman's theory, we have explained that as far as only wage is concerned, exit may be more effective than voice considering the collective cost of the latter and the uncertainty of its result. In fact, it is not workers with the lowest wages who voice the most. Voice is rather associated with higher wages in France (Table 7, models 3, 5, 6, 7, 9). This result is also confirmed in different types of collective action models: stoppage, strikes of less than two days, strikes of more than two days, slowdown, overtime ban and demonstration (Table A8). This finding is in line with classical research on industrial relations showing that unions and collective action develop in industries that are protected from competition and that can therefore attribute

higher wages (Dickens and Katz, 1987). A simple comparison of the negative significant impact of pay on exit and its positive significant impact on voice shows that our results are compatible with *H3*.

6.3 Strategy and improvements

The surveys used in the current study allow us to evaluate the result of the chosen strategy. We first test whether voice improves working conditions (H2). In WERS, we can test it correctly since we have the same variables for poor working conditions both in 2004 and 2011. In REPONSE, it is only an approximation since the working conditions variables used in 2004 and 2011 differ. In both cases, voice has a small positive but non-significant impact on working conditions improvement. Although it is not possible to test H2 directly with *SalSa,* the fact that employees, who suffer the worst working conditions, are the most likely to report non-monetary improvements (among which we may find better working conditions) is in line with H2 (table A6). But it is necessary that this theoretical element still needs more robust and more detailed confirmation.

We than test whether exit improves pay (H4). We can test this question only with *SalSa* thanks to the individual panel information on wages between 2003 and 2008 (Table 8). The estimation is similar to a first difference model. It therefore accounts for constant unobserved individual heterogeneity[39]. In the *SalSa* survey voluntary exit significantly increases wages by 7 per cent (and by 11 per cent when exit is motivated by pay reasons).

In the REPONSE and WERS surveys we observe pay evolution of those who stayed but not of those who quitted. Unfortunately, these models does not provide a proper test for H4. It enables to test two features that may be related to the Hirschmanian model without being at his heart. First it allows us to see whether voice enables to improve pay. Second it enables to measure whether quits serve as a signal to which firm might react by pay improving. When we examine the impact of voice on pay increase, we find that there is no significant association between the voice strategy and pay increase. These results are also in line with Hirschman's model where we expect exit and not voice strategy to favour pay increase.

In the WERS survey voluntary exit rate is negatively associated with pay increase. In the REPONSE survey voluntary exit rate is positively associated with pay increase but there is no significant impact on it. Therefore thanks to *SalSa* we can thereby partially confirm *H4*.

[39] Besides improving strategies, other time-varying variables such as occupation could be introduced in the model, but we did not introduce them because they could be consequences of the strategies rather than independent covariates.

Table 8. The impact of exit and voice on working conditions and pay

	Working conditions Improvements	**Pay increase**
WERS - Establishment level	Model 11	Model 12
Collective voice: at least one strike reported in 2011	0.02	0.07
	(0.12)	(0.11)
Exit: voluntary quit rate in 2004	0.01	-0.10**
	(0.04)	(0.04)
R2	0.00	0.01
Number of observations	560	560
Model	OLS	OLS
REPONSE - Establishment level	Model 13	Model 14
Collective voice: at least one strike reported in 2011	0.02	0.01
	(0.04)	(0.04)
Exit: 2006 voluntary quit rate	0.05	-0.13
	(0.09)	(0.09)
R2	0.02	0.01
Number of observations	578	578
Model	OLS	OLS
SalSa - Individual level		Model 15
Collective voice		-0.00
		(0.02)
Voluntary exit		0.09***
		(0.02)
R2		0.01
Number of observations		1719
Model		OLS

Notes: Parameters are x and y standardized. For WERS and REPONSE panels, we also control for the evolution of business activity. In Model 15, we restricted to workers working full time both in 2003 and 2008. Key to statistical significance: ***p < 0.001, **p < 0.01, *p < 0.1

7. Conclusion

To our knowledge, this contribution is the first detailed application of Hirschman's exit-voice framework to the labour market stressing the importance of job quality. It provides the main reasons why poor working conditions tend to favour voice strategies and low pay tends to favour exit strategies. Our main statistical findings support this framework: deterioration in the index of poor working conditions increases the probability of participation in collective action in three surveys. An increase in log hourly wage decreases the probability of quitting the job.

Our first results have some limitations that we would like to stress here. A first limitation is common to many statistical studies. Our result holds as long as the classical unobserved heterogeneity problem is not a significant issue. More detailed panel data could be a way of overcoming this limit.

We should mention a second limitation that is more theoretical. Provided results still hold with a better statistical apparatus, however, they may also be explained within a different theoretical framework. The classical framework used for collective action is based on bargaining power and on the degree of competition (Budd, 2005). In industries protected from competition, unions can raise wages efficiently, perhaps at the expense of worsening working conditions, which could seem compatible with the main correlations described in Table 5. The relative power of our explanatory framework compared to others and the possibility of combining diverse theoretical frameworks should therefore be submitted to careful scrutiny.

Finally, if our results and theoretical framework hold true, they could be an invitation to revise our views on collective action. Our study challenges two traditional views about collective action. The market view sees collective action as relatively inefficient and even when it leads to improvements for workers it does so at the cost of deviating from market equilibrium. Exit, on the other hand, is viewed as a pure market strategy that is both individually improving and helps to discover the true market equilibrium. In the Marxist view, exit is viewed as an individualistic petit-bourgeois strategy that undermines class consciousness, whereas collective action is the main means for obtaining global and permanent improvements. Our Hirschmanian approach is situated somewhere between the two. It shows the accuracy of the market view in regard to pay and of the Marxist view in regard to working conditions. As such, it invites us to associate the study of collective action and of unionization more strongly with the issue of working conditions, a question that is understudied in the traditional bargaining model. Much collective action is in fact, either directly or indirectly, concerned with working conditions. Traditional claims for shorter working days and for increased recruiting, as well as disputes concerning redundancy, are also ways of improving working conditions or of resisting their degradation.

Appendices

A1. correlation of poor working conditions (WERS)

	1	2	3	4	5	6	7
1. Hard work	1.00						
2. Never enough time to get the work done	0.30	1.00					
3. Little Influence on the tasks	-0.08	-0.06	1.00				
4. Little Influence on how to do the work	-0.04	-0.01	0.45	1.00			
5. Low Satisfaction with the work itself	-0.03	0.08	0.18	0.18	1.00		
6. Uneasy job	0.15	0.28	0.04	0.08	0.20	1.00	
7. Poor relations between managers and employees	0.00	0.07	0.14	0.14	0.25	0.16	1.00

Source: WERS (2004)

A2. Descriptive statistics and correlation of poor working conditions (SalSa)

	Mean (sd)	1	2	3	4	5	6
1. Works at a fast rhythm : yes most of the time	0.433 (0.496)	1.00					
2. Work is physically difficult	0.372 (0.484)	0.10	1.000				
3. Work is nervously difficult	0.636 (0.481)	0.32	0.05	1.00			
4. Work is dangerous	0.272 (0.445)	0.00	0.34	0.02	1.00		
5. Work schedule is not convenient	0.169 (0.375)	0.10	0.12	0.10	0.05	1.00	
6. Likes what one does during the work : generally no.	0.032 (0.176)	0.04	0.10	0.04	0.03	0.09	1.00

Notes: The first column contains mean and standard deviation in parentheses.

Source: Salsa (Insee, 2009) N=3117

A3. Imputation of working conditions in 2003 within the SalSa Survey

We consider the values of BQ_{2003} as missing observations and we assume that the parameters of the BQ_{2003} are the same as those of BQ_{2008}. A rationale for such assumption is that the broad determinants of job quality do not change quickly. Although the parameters are given for 2008, for the imputed variable we will use the values of explanatory variables in 2003. The information contained in the imputed variable BQ_{2003} therefore depends on the situation in 2003.

Estimation: $BQ_{2008} = \Sigma_k \, a_{k\ 2008} * x_{k\ 2008} + u$ (2)

Imputation: $BQ_{2003} = \Sigma_k \, a_{k\ 2008} * x_{k\ 2003}$ (3)

The relation between the real 2003 bad job quality index and our imputation can be viewed as a linear relation, as in equation 4.

$BQ_{2003} = b_0 + b_1 * BQ_{2003} + v$ (4)

$S_{2003\text{-}2008} = c + d * BQ_{2003} + \Sigma_l f_l * z_l + w$ (5)

$S_{2003\text{-}2008} = c + d * b_0 + d * b_1 * BQ_{2003} + \Sigma_l f_l * z_l + v + w$ (6)

A condition for estimating the impact d of the real unknown variable BQ_{2003} strategy in equation (4) when we replace it with the imputation variable BQ_{2003} is that b_1=1. This condition is met if $a_{k\ 2008} = a_{k\ 2003}$. Therefore, if the real parameters of job quality did not change between 2003 and 2008, our imputation variable is suitable to estimate the impact of the working conditions on the work-improving strategy chosen between 2003 and 2008.

In order to model BQ_{2008}, we use the following panel variables that are known for both 2003 and 2008: age, age squared, occupation, industry, number of working hours, number of working hours squared, size of the firm, log of wage (centred and standardized), region, type of firm, type of contract, and an interaction of sectors and occupation. We also use *SalSa* 2008 variables that we can presume correctly inform the situation in 2003, such as gender and education. Estimates of this regression can be found in Table A3.

In order to avoid collinearity problems while estimating the second stage equation 5, it is important for some variables x_k used in the first stage equation 1 for estimation and after imputation, to differ from the control variables z_l in the second stage equation 5. The following variables are used in the first stage regression and not in the strategy regression: region, type of firm, type of contract and an interaction of industry and social categories.

A3. Estimation of poor work quality index

	Estimate	SE
Intercept	2.33*	1.06
Gender Female	0.13	0.14
Diploma: Professional technical degree	-0.22	0.18
High school	-0.26	0.21
2 years of college	-0.33	0.24
Bachelor;s degree	-0.41	0.29
Master's degree and above	-0.27	0.30
Number of **working hours**	-0.00	0.00
Number of working hours (squared)	0.00	0.00
Age 2008	0.08	0.04
Age 2008 (squared)	-0.00*	0.00
Occupation: Technician type professions	0.15	0.43
Clerks	-0.94.	0.57
Qualified blue-collar	1.08*	0.43
Non-qualified blue-collar	1.41**	0.53
Industry: Construction and energy	-0.14	0.84
Retail	0.31	0.50
Hotels and restaurants	0.34	1.49
Transportation and communication	-0.31	0.79
Financial services	0.53	0.71
Real estate and service to business	0.05	0.45
Public administration	-0.56	0.69
Education	-1.45	1.26
Health	0.86	0.70
Other personal and collective services	-0.70	1.09
Size of the firm	0.00	0.00
Wage 2008	0.17*	0.10
Region : Paris basin (except Paris Region)	-0.37*	0.19
North	1.07*	0.49
East	-0.09	0.20
West	-0.55**	0.20
South West	-0.10	0.24

(continued)	**Estimate**	**SE**
Central East	-0.39*	0.17
Mediterranean	-0.71**	0.24
Type of firm: Local public establishments	0.24	0.37
Medical social establishments	1.26**	0.44
Public national establishments	0.09	0.64
Public establishment in industrial and commercial character	0.95	0.59
Associations	0.27	0.39
Individual enterprises	0.21	0.47
Companies and quasi companies	0.49	0.42
Type of contract: Workers at home	-2.49	3.09
Part-time work	-0.23	0.18
Occupation*industry: Technical and assimilated workers *Construction	1.099	0.97
Clerks*Construction	-0.13	1.14
Qualified blue-collar*Construction	0.74	0.91
Non-qualified blue-collar*Construction	0.36	1.16
Technical and assimilated workers *Retail	-0.51	0.64
Clerks*Retail	1.33*	0.69
Qualified blue-collar*Retail	-0.12	0.64
Non-qualified blue-collar*Retail	-0.11	0.93
Technical and assimilated workers*Hotels and restaurants	0.28	1.74
Clerks*Hotels and restaurants	2.29	1.61
Qualified blue-collar*Hotels and restaurants	1.29	1.70
Non-qualified blue-collar*Hotels and restaurants	-3.63	2.56
Technical and assimilated workers*Transportation and communication	0.08	0.97
Clerks*Transportation and communication	2.56**	0.99
Qualified blue-collar*Transportation and communication	1.14	0.87
Non-qualified blue-collar*Transportation and communication	2.03	1.29
Technical and assimilated workers*Financial services	-0.69	0.87
Clerks*Financial services	-0.07	1.07
Qualified blue-collar*Financial services	-3.36	2.99

(continued)	Estimate	SE
Non-qualified blue-collar*Financial services	-2.72	3.03
Technical and assimilated workers*Real estates and service to business	-0.32	0.58
Clerks*Real estates and service to business	1.42*	0.67
Qualified blue-collar*Real estates and service to business	0.38	0.61
Non-qualified blue-collar*Real estates and service to business	0.49	0.65
Technical and assimilated workers*Public administration	0.77	0.74
Clerks*Public administration	2.16**	0.78
Qualified blue-collar*Public administration	0.89	1.36
Non-qualified blue-collar*Public administration	-2.05	1.32
Technical and assimilated workers*Education	1.65	1.42
Clerks*Education	3.81*	1.52
Technical and assimilated workers*Health	0.55	0.73
Clerks*Health	1.79*	0.79
Qualified blue-collar*Health	-1.41	0.87
Non-qualified blue-collar*Health	-2.73*	1.34
Technical and assimilated workers*Other personal and collective services	1.23	1.23
Clerks*Other personal and collective services	1.41	1.23
Qualified blue-collar*Other personal and collective services	-0.3	1.39
Non-qualified blue-collar*Other personal and collective services	0.12	1.46
R-squared: 9.4%		

Note: OLS regressions. The reference situation for the qualitative variables is as follows: male, no diploma or elementary diploma, manager or professional, manufacturing industry, Paris region, local administration and full time worker.
Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01

A4. WERS complete regressions (Table 7, models 1 and 2)

	Descriptive Statistics	**Voice (Logistic)**	**2006 exit rate (OLS)**
Intercept	Mean	-32.470**	3.103**
	(sd)	(10.389)	(0.950)
2004 Bad job quality	4.80	0.403**	0.016
	(1.638)	(0.148)	(0.035)
2004 Log of hourly pay	2.10	0.113	-0.114*
	(0.357)	(0.225)	(0.054)
Working hours	35.00	2.088	0.008
	(7.617)	(1.421)	(0.188)
Working hours (squared)	1300.00	-0.004	0.000
	(507.651)	(0.003)	(0.000)
Tenure	6.40	0.452	-0.440*
	(2.906)	(0.913)	(0.203)
Tenure (squared)	71.00	-0.006	0.005
	(47.534)	(0.019)	(0.004)
Age	41.00	7.030*	-0.519*
	(6.421)	(3.090)	(0.292)
Age (squared)	1700.00	-0.012*	0.001*
	(503.272)	(0.006)	(0.001)
Workplace size	410.00	0.279*	0.021
	(908.954)	(0.113)	(0.036)
Proportion of females	0.56	-0.208	-0.029
	(0.312)	(0.742)	(0.172)
Occupation (ref= blue-collar) :			
Proportion of managers	0.22	-0.380	-0.251
	(0.219)	(0.819)	(0.240)
... of technicals and intermediates	0.35	-0.325	-0.294*
	(0.301)	(0.653)	(0.173)
... of clerks	0.21	-1.547*	0.462**
	(0.305)	(0.790)	(0.171)
Academic diploma (ref = no diploma):			
Proportion of primary education	0.07	-2.427	0.558
	(0.109)	(2.535)	(0.385)
... of GCSE	0.26	0.381	0.372
	(0.188)	(1.128)	(0.268)
... of 1 A level grade	0.06	-1.368	0.022
	(0.081)	(2.096)	(0.471)
... of 2 & more A level grades	0.08	-0.302	0.078
	(0.109)	(1.687)	(0.376)
... of Undergraduate degree	0.19	-0.262	0.613*
	(0.181)	(1.281)	(0.302)
... of Postgraduate degree	0.07	0.444	0.925*
	(0.12)	(1.577)	(0.431)
... of other qualifications	0.10	0.319	1.338***
	(0.126)	(1.509)	(0.337)
Sector (ref = health): Manufacturing	0.12	-18.237	-0.065
	(0.323)	(1081.361)	(0.153)
Energy	0.01	-18.286	-0.135
	(0.102)	(3737.902)	(0.338)

(continued)	Mean (sd)	Voice (Logistic)	2006 exit rate (OLS)
Construction	0.04	-0.238	0.006
	(0.2)	(0.723)	(0.197)
Whole sale and retail	0.10	-16.656	-0.027
	(0.306)	(1043.348)	(0.135)
Hotel	0.04	-0.448	0.727***
	(0.2)	(1.178)	(0.200)
Transport	0.07	-1.991*	-0.416*
	(0.259)	(0.930)	(0.180)
Finance, insurance and service to business	0.12	-0.695	0.188
	(0.329)	(0.591)	(0.132)
Administration	0.10	1.860***	-0.097
	(0.298)	(0.415)	(0.145)
Education	0.13	1.700***	-0.215
	(0.332)	(0.399)	(0.133)
Pseudo R2 / R2	/	0.40	0.25
Num. obs.	764	764	706

Notes: In the regressions, the simple continuous variables (from bad job quality index to workplace size) are standardized with their standard deviation, the squared continuous variable are standardized with the standard deviation of the non-squared variable. Proportion and dummies are not standardized. In the exit OLS regression model, the dependent variable (firm average exit rate) is also standardized. Standard error in parentheses. Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01.

A5. REPONSE complete regressions (Table 7. models 3 & 4)

	Descriptive Statistics	Voice (Logistic)	2006 exit rate (OLS)
Intercept	Mean	-8.546**	4.166***
	(sd)	(2.686)	(0.941)
2004 Bad job quality	2.4	0.202*	0.057
	(0.74)	(0.096)	(0.037)
2004 Log of hourly pay	2.4	0.521***	-0.207***
	(0.36)	(0.153)	(0.060)
Working hours	32	0.455	-0.188*
	(7.59)	(0.291)	(0.103)
Working hours (squared)	1200	-0.001*	0.001**
	(483.31)	(0.001)	(0.000)
Tenure	14	0.126	-0.338*
	(7.64)	(0.436)	(0.175)
Tenure (squared)	290	0.000	0.001
	(278.26)	(0.002)	(0.001)
Age	40	1.193	-0.617*
	(7.32)	(0.965)	(0.339)
Age (squared)	1700	-0.002	0.001*
	(590.08)	(0.002)	(0.001)
Workplace size	320	0.889***	-0.022
	(452.25)	(0.130)	(0.039)
Proportion of females	0.42	-0.267	-0.050
	(0.39)	(0.292)	(0.116)

(continued)	Mean (sd)	Voice (Logistic)	2006 exit rate (OLS)
Occupation (ref= non-qualified blue collar):	0.17	-1.643*	-0.122
Proportion of managers	(0.28)	(0.654)	(0.248)
... of intermediates	0.27	-0.325	-0.037
	(0.32)	(0.492)	(0.194)
... of clerks	0.22	-1.134*	0.056
	(0.33)	(0.490)	(0.190)
... of qualified blue-collar	0.22	-0.434	-0.124
	(0.32)	(0.464)	(0.187)
Diploma (ref = no diploma): Proportion of BEPC	0.069	0.187	-0.133
	(0.17)	(0.614)	(0.234)
... CAP	0.062	-0.457	-0.584*
	(0.16)	(0.655)	(0.248)
... Baccalauréat	0.32	-0.063	-0.322*
	(0.33)	(0.401)	(0.159)
... BAC+2	0.13	0.255	-0.056
	(0.23)	(0.517)	(0.200)
... BAC+3 or +4	0.16	0.134	-0.179
	(0.25)	(0.485)	(0.191)
... BAC +4 and more	0.066	0.101	-0.011
	(0.16)	(0.650)	(0.248)
Sector (ref = health): Manufacturing	0.38	-0.322	-0.232
	(0.49)	(0.344)	(0.149)
Energy	0.012	1.200	-0.207
	(0.11)	(0.914)	(0.350)
Construction	0.06	-1.600*	0.522*
	(0.24)	(0.624)	(0.212)
Wholesale and retail	0.14	-1.055**	0.370*
	(0.35)	(0.405)	(0.156)
Hotel and restaurants	0.027	-0.875	2.297***
	(0.16)	(0.709)	(0.282)
Transport and communication	0.08	0.347	0.014
	(0.27)	(0.437)	(0.190)
Finance, insurance and service to business	0.11	-0.772*	0.283*
	(0.31)	(0.406)	(0.165)
Real estate	0.015	-1.538*	-0.292
	(0.12)	(0.860)	(0.322)
Education	0.027	0.501	0.461*
	(0.16)	(0.562)	(0.242)
Other community services	0.025	-2.413*	0.801**
	(0.16)	(1.151)	(0.243)
Num. obs.	804	804	596
Pseudo R2 / R2	/	0.23	0.33

Notes: In the regressions, the simple continuous variables (from bad job quality index to workplace size) are standardized with their standard deviation, the squared continuous variable are standardized with the standard deviation of the non squared variable. Proportion and dummies are not standardized. In the exit OLS regression model, the dependent variable (firm average exit rate) is also standardized. Standard error in parenthesis. Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01.

A6. SalSa complete regressions (Table 7, models 7 and 8)

	Descriptive Statistics	**Voice (Logistic)**	**Exit (Logistic)**
Intercept	Mean	-4.089***	0.420
	(sd)	(0.812)	(0.805)
2008 Poor working conditions	4.4	0.368***	0.040
	(3)	(0.052)	(0.058)
2003 Hourly wage (log)	2.3	0.166*	-0.135*
	(0.42)	(0.073)	(0.077)
Age 2003	37	0.502	-0.018
	(10)	(0.438)	(0.479)
Age 2003 (squared)	1500	-0.001	-0.001
	(740)	(0.001)	(0.001)
Total number of yearly hours in 2003	1500	0.015	-0.230
	(630)	(0.164)	(0.198)
Total number of yearly hours in 2003 (squared)	2600000	0.000*	-0.000
	(1700000)	(0.000)	(0.000)
Size of the firm in 2003	460	0.164***	-0.219*
	(1600)	(0.046)	(0.093)
Gender: Female	0.48	0.001	-0.266*
	(0.5)	(0.121)	(0.137)
Diploma: Professional technical degree	0.37	0.255	0.663**
	(0.48)	(0.181)	(0.241)
High School	0.17	0.194	0.486*
	(0.38)	(0.215)	(0.268)
2 years of college	0.17	0.220	0.546*
	(0.38)	(0.224)	(0.278)
Bachelor's degree	0.072	0.336	0.483
	(0.26)	(0.271)	(0.313)
Master's degree	0.086	0.580*	0.717*
	(0.28)	(0.272)	(0.322)
2003 Occupation (ref= non-qualified blue collar) :	0.12	-0.632*	0.407
Manager	(0.33)	(0.311)	(0.295)
Technicians	0.25	0.081	0.313
	(0.43)	(0.245)	(0.245)
Clerks	0.33	-0.054	-0.267
	(0.47)	(0.231)	(0.232)
Qualified blue-collar	0.22	0.010	0.055
	(0.41)	(0.226)	(0.226)
2003 Industry (ref: Others) : Manufacturing	0.21	-0.062	-0.281
	(0.4)	(0.297)	(0.315)
Construction and energy	0.061	-1.204**	-0.123
	(0.24)	(0.408)	(0.363)
Retail	0.14	-0.611*	0.494
	(0.35)	(0.316)	(0.306)
Hotels and restaurants	0.034	-0.166	0.952**
	(0.18)	(0.405)	(0.367)
Transportation and communication	0.054	-0.169	0.355
	(0.23)	(0.355)	(0.371)

(continued)	Mean (sd)	Voice (Logistic)	Exit (Logistic)
Financial services	0.029	0.084	-1.150*
	(0.17)	(0.393)	(0.595)
Real estate and service to business	0.15	-0.502	0.091
	(0.36)	(0.311)	(0.306)
Public administration	0.12	0.795**	-0.452
	(0.32)	(0.300)	(0.351)
Education	0.013	0.098	-0.549
	(0.11)	(0.514)	(0.616)
Health	0.15	0.520*	0.120
	(0.36)	(0.298)	(0.324)
Pseudo R2	/	0.11	0.14
Num. obs.	2485	2474	2485

Notes: In the regressions, the simple continuous variables (from bad job quality index to workplace size) are standardized with their standard deviation, the squared continuous variable are standardized with the standard deviation of the non squared variable. Proportion and dummies are not standardized. Standard error in parentheses.

Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01.

A7. Influence of bad working conditions and pay on various forms of voice - WERS

Independent variables →	2004 Bad working conditions index	2004 Log of hourly pay
↓ 2011 Dependent variables	(standardized)	(standardized)
Strikes of less than a day	0.61*	0.5
Strikes of a day and more	0.33*	0.09
Overtime ban or restriction by employees	0.02	-1.11
Work to rule	0.48	-0.98*
Other industrial action (for example, go slow, sit in)	-0.81	1.86
At least one of these	0.39**	0.07
Dispute	0.22*	-0.08
Threat of strike	0.22	0.21
Ballot	0.31*	0.53**
Disruption	0.22	0.09
Employee making an application to an Employment Tribunal	0.21*	0.29*

Notes: Each line corresponds to a different logistic regression. Control variables similar to table A4 are not reported.

Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01.

A8. *Influence of bad working condition and pay on various forms of voice - REPONSE*

Independent variables → ↓ 2011 Dependent variables	2004 Bad working condition index (standardized)	2004 Log of hourly pay (standardized)
Stoppage (at least once)	0.26**	0.45**
Strikes less than 2 days (at least once)	0.20*	0.49**
Strikes of more than 2 days (at least once)	0.33*	0.71**
Go-slow strike (at least once)	0.65*	0.53
Work-to-rule, slowdown (at least once)	0.15	0.58*
Refusal to work overtime (at least once)	0.26*	0.11
Assembly, demonstration (at least once)	0.31**	0.44**
Petition (at least once)	0.24*	0.29*
Employee making an application to an Employment Tribunal	-0.02	0.09
Absenteeism is a problem	0.26**	0.2
Strong tensions between subordinates and supervisors	0.09	0.18

Notes: Each line corresponds to a different logistic regression. Control variables similar to table A5 are not reported.

Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01

A9. Influence of bad working conditions and pay on various forms of voice and exit - SalSa

Independent variables → **↓ Dependent variables**	2008 bad working condition index (standardized)	2003 Log of hourly pay (standardized)
Collective action successful	0.08***	0.09
Collective action pay increasing	0.17*	0.06
Collective action other advantage	0.32***	0.18
Exit for pay	0.05	-0.31**
Exit for other reason	0.02	-0.02
Intends to quit	0.42***	-0.20*
Intends to quit for pay	0.39***	-0.31**
Intends to quit for other reason	0.34***	-0.07
Exit in 2009	0.08	-0.26

Notes: Each line corresponds to a different logistic regression. Control variables similar to table A6 are not reported.

Key to statistical significance: * p<0.1; ** p<0.05; *** p<0.01

General conclusion

The motivation of my PhD thesis was to contribute to the job quality literature by analyzing the link between workplace characteristics and job quality. Each of the chapters attempted to examine this link from a different angle, and to highlight the role of the workplace in shaping employee job quality. Thus the thesis has drawn on the evidence available from two groundbreaking workplace surveys – the *Workplace Employment Relations Survey* (WERS) in Great Britain and *L'Enquête Relations Professionnelles et Négociations d'Entreprises* (REPONSE) in France carried out in 2005 and 2011.

The thesis also highlights the importance of examining the impact of workplace characteristics on job quality from the institutional approach, in which it is argued that workplaces are embedded in their local environment and employer strategies are conditioned by multiple institutions (Maurice, 2000; Hall and Soskice, 2001). Comparative analyses have been performed between France and Great Britain in order to examine how specific workplace characteristics embedded in different contextual and institutional settings can shape job quality.

A further motivation for my thesis was to assist policy-makers as they seek to intervene in employment relations. Previous studies have argued that a general pre-requisite for happiness is having a job (Blanchflower, 2006). It seems evident, therefore, that job creation remains a crucial factor for national well-being but that job quality is also a public policy issue and one that has been debated largely at the level of the macro economy for several reasons (Burgess and Connell, 2008). First, there is the issue of providing pathways out of poverty through jobs. In the development context, job quality is seen in terms of providing sufficient income to sustain basic standards of living and providing pathways from irregular and informal work into regular and formal work (Bivens and Gammage, 2005). Both international organizations and academics argue that jobs are a means of improving and sustaining living standards and that, in order to do this, both the pecuniary and non-pecuniary aspects of job quality should be taken into account (EC; 2001; ILO, 2006; Green, 2006). This explains why policy makers at EU level have issues of flexibility, job security, job creation, working conditions and inequality on their agenda as part of the 2020 Growth Strategy. In order to be able to contribute to policy-making in the job quality field, it is necessary to provide good empirical evidence of what is happening in firms and among workers, and how the situation could be improved. The value of comparative studies then becomes more apparent.

In this conclusion, I will draw together the main findings with respect to job quality and discuss their importance for policy making and future research. The remainder of the conclusion summarizes what I have investigated under three broad headings:

- Are employees' perceptions of job quality related to the workplace situation in a period of recession? Might job quality be similar in those workplaces that have been affected by the crisis and in those not so affected?
- Is job quality similar or different in different employment regimes? Is average job quality similar in large and in small firms? Can the pecuniary aspects of job quality be considered a complementary part of non-pecuniary job quality in France and in Great Britain?
- What strategies do employees adopt when faced with poor working conditions and low pay?

Job Quality during recession

In the first chapter of the thesis I examined the evolution of job quality in the period of the economic crisis between 2005 and 2011 in France. My starting point was that firms introduce workplace adjustment mechanisms in response to the shock and that this may suggest that employees' perception of job quality may be related to the workplace situation. Consequently, job quality may differ depending on whether or not the workplace in question had been affected by the crisis. A number of scenarios could therefore plausibly be advanced to depict the evolution of job quality among 'survivors' of the recession. Using the data linking perceived job quality with the dynamics of activity and employment in the workplace, the chapter investigated empirically the links between changes in business activity at the workplace level and employee job quality in two different contexts: one in a favourable economic situation in 2005 and the other one post-crisis in 2011. More particularly, the chapter investigated how a deterioration in business activity at the workplace level interacted with a change in employment and what the impact was on the job quality of French employees.

The findings of the first chapter showed that, whatever had gone on at the workplace level, in the post-crisis context employees perceived work intensity to be higher, job insecurity to be lower, and promotion opportunities to have improved. These results highlight the effect of the macro-economic context on perceptions of job quality. However, the chapter's findings also confirmed that the perception of job quality varies across workplaces that have been affected by the crisis and those less affected by the crisis. In particular, employees who were in workplaces, where both business activity and employment decreased perceived job insecurity to be higher and promotion opportunities lower in the post-crisis context. These results present a powerful

illustration of the need to consider the workplace perspective when investigating variations in job quality in the context of the crisis. They also strengthen the conclusion that job quality is dependent on the workplace situation. Furthermore, the results of the first chapter present new evidence on the degree to which the workplace situation was a factor contributing to deterioration or improvements in the job quality of 'survivors' of the recession.

The findings of Chapter 1 also recognize the multi-dimensional aspect of job quality as different dimensions of job quality are affected in different ways. The composite measure of job quality does not reveal how workplace adjustment practices affect the separate dimensions of job quality. Thus the chapter highlights the importance of examining the separate dimensions of job quality.

In terms of employment public policy, the results may serve as a basis for exploring the links between trends in job quality and institutional factors in future studies. For example, it was confirmed that employers did not apply wage adjustment practices in the post-crisis context. In line with the existing literature, one explanation could be related to strong wage-setting institutions and collective agreements in France, which prevent firms from applying wage adjustment policies. It may be argued, therefore, that a country's institutional framework and in particular its mode of employment regulation and the nature of its welfare state – plays an important role in determining workplace adjustment practices. More particularly, it has been shown that in the Nordic countries and continental countries such as Germany, France, Belgium and the Netherlands, job insecurity was no greater in 2010 than it had been in 2004 (Gallie, 2013). However, these studies are based again on country-level analyses, and the perspectives of both employer and employee are missing. Drawing on the linked employer-employee data, comparative studies should be performed in order to examine if workplace adjustment practices are different in different institutional frameworks and how they may influence the separate dimensions of job quality.

Job Quality from Comparative Perspectives

Chapter 2 investigated how different systems of employment relations have an impact on job quality. France and Great Britain have very different systems of employment relations. These differences correspond to a characterization of Great Britain as a liberal market economy with limited coordination and collaboration between social partners, and a tolerance of inequality. The French system is characterized as a dualist labour market system with centralized coordinated bargaining and worker representation. The role of the state as both coordinator and regulator is considered to be quite unique. The contribution of Chapter 2 is to examine the variations in job

quality in Great Britain and France by emphasizing the role of employment regimes and size of firm.

The results of the second chapter confirm that national institutional regimes are still sufficiently different and influential to produce cross-national variations in job quality in the two countries. One of the important contributions of Chapter 2 is to examine the relation between job quality and firm size. The findings show that in dualistic regimes non-pecuniary job quality is higher in larger firms than in small firms, whereas in market employment regimes job quality is higher in smaller firms than in larger ones. This highlights the fact that organized labour does not have the same power in large firms in dualist regimes as it does in large firms in market employment regimes.

Another significant contribution of Chapter 2 is its investigation of the relation between pecuniary and non-pecuniary job quality. The results show that pecuniary job quality can be viewed as a complementary part of job quality in firms of all sizes in both France and Great Britain. This finding confirmed that there is no support for the contention that wages may compensate employees for poorer job quality in both countries. This finding is particularly important in the post-crisis context as one might have expected to observe a trade-off between poor job quality and pay policy when the unemployment rate increases and firms apply workplace adjustment policies. In post-crisis context, therefore, policy analyses cannot assume that market forces will compensate employees for adverse working conditions.

Furthermore, the results also show that that there is a weak significant association between pecuniary job quality and non-pecuniary job quality in large firms in Great Britain. No significant association was found in small British firms. In contrast, in France, in both large and small firms, the pecuniary aspect of job quality can be viewed as a complementary part of job quality. The findings are in line with the evidence from Forth *et al.* (forthcoming) that wage profiles are more dispersed in Britain than in France, and that there is substantial heterogeneity in the approach taken by workplaces in the British labour market.

There is another important difference in the correlation of job quality across the two countries. In France, women experience significantly poorer non-pecuniary job quality than men. In Great Britain, there is no gender differential. This finding is in line with previous research findings that male workers in 'dualist' regimes are more likely to hold jobs that require more training and offer higher job security and better opportunities for career advancement than women. This finding suggests there is a need for policy-makers to introduce gender-egalitarian policies and strengthen the workforce attachment of women in the labour market.

Finally, it should be noted that both the composite measure and separate dimensions of job quality were examined in Chapter 2, which enabled us to investigate both the variation in overall job quality in the two countries and the differences in the separate dimensions of job quality. One of the important findings with regard to the separate dimensions of job quality is that there is a higher level of skills mismatch in Great Britain than in France to which academics and policy-makers should pay particular attention in future studies.

Exit-voice strategies of employees faced with poor working conditions and low pay

Chapter 3 provided a detailed application of Hirschman's exit-voice framework to the labour market, with an emphasis on the importance of job quality. The chapter aimed, first, to examine the role of job quality in shaping the exit-voice strategy, and, second, to assess the consequences of those strategies on either pay increases or improvements in job quality. The chapter also included an empirical investigation of the main reasons why poor working conditions tend to encourage voice strategies and low pay tends to encourage exit strategies.

The findings in Chapter 3 show that at both the individual and aggregate establishment levels a deterioration in the working conditions index increases the probability of participation in collective action, while an increase in log hourly wage decreases the probability of quitting. These findings challenge two traditional views about collective action. First, the market view sees collective action as relatively inefficient and even when it leads to improvements for workers it does so at the cost of deviation from market equilibrium. Exit, on the other hand, is viewed as a pure market strategy that is both individually improving and helps to discover the true market equilibrium. In the Marxist view, collective action is the main means for obtaining global and permanent improvements. The Hirschmanian approach is situated somewhere between the two. It shows the accuracy of the market view in regard to pay and of the Marxist view in regard to working conditions.

Furthermore, these finding invite us to associate the study of collective action and of organized labour more strongly with the issue of working conditions, a question that is paid insufficient attention in the traditional bargaining model. In line with the results of Chapter 2, the findings of Chapter 3 highlight the importance of examining the relation between working conditions and organized labour. This may call attention to the association between unionization and non-pecuniary job quality. However, this relationship has attracted much less attention in empirical studies than the links between unions and pay. One implication is that unions should shift their attention away from pay bargaining and start to focus more on improving other aspects of job quality, such as training or safe working conditions (Van Wanrooy *et al.*, 2013).

The findings of the third chapter may serve as a basis for examining the role of unions in affecting job quality via both their voice and bargaining roles at the workplace (Green and Whitfield, 2009; Bryson and Green; 2015). Union status usually appears in analyses of job quality as a background control variable, and there is a need to recognize its role in influencing job quality of employees. Furthermore, less is known about differences in the quality of unionized and non-unionized jobs. Future studies can also provide cross-national comparisons in order to understand the behavioural patterns of individuals in different unionized settings.

Employers might also welcome union interest in non-pecuniary job quality if it leads to higher productivity. Therefore, it is necessary to provide empirical evidence on how the separate dimensions of job quality and the average job quality contribute to increased firm profitability. There is a considerable amount of evidence that subjective well-being is positively associated with employee job performance (Judge *et al.*, 2001; Lyubmirsky *et al.*, 2005). However, there is no certainty that higher job quality will lead (cause) to greater profitability at the level of the workplace.

Furthermore, as part of the investigation into how employer/employee cooperation might produce better working conditions and higher productivity, further research is needed into the link between human resource practices and exit-voice strategies. Some scholars have argued that HR practices encourage the voice strategy and that, among these strategies, pay has a negative impact on the exit rate (Batt *et al.*, 2002; Haines *et al.*, 2010). However, these papers take into account the basic definition of the level of pay and consider wage levels as part of human resource management practices. However, much less attention has been paid to the link between HR practices and the improvement of working conditions.

Convergence and Divergence in job quality

The analyses presented in the thesis have revealed a number of general 'workplace effects' on job quality, but at the same time considerable differences between France and Great Britain. Future comparative research is needed to examine whether these differences will persist into the future. Many factors affect job quality and their impact may vary between countries, occupations and sectors. As a result, changes in job quality may be faster in some countries and slower in others, causing job quality to diverge or converge between countries.

The analysis of convergence and divergence in job quality can provide key insights into trends in job quality across Europe and indicate whether changes in job quality are benefiting some groups more than others and point to the factors driving these changes (Eurofound, 2015). There are signs that new pressures for convergence are emerging in the face of global economic forces,

including the new waves of migration, and increasing calls for international cooperation to solve climate change. The analyses could be extended to a large number of countries in order to examine the evolution of policy reforms and employer strategies, and their impact on job quality. The findings of this work will provide more evidence on whether European policy objectives are being achieved or not (Eurofound, 2015).

While extending the analyses to a large number of countries, it will also be necessary to examine how cooperation among employers and employees, together with the power of organized labour, results in mutual gains for firms and workers. This thesis has focused on the impact of the 'workplace effects' on job quality, arguing that improvements in job quality will reduce the costs incurred as a result of labour turnover and that they are associated with higher productivity. The results showed that job quality depends on the workplace situation and that it varies according to the prevailing employment regime. However, future research should be undertaken in order to understand how the application of human resource management (HRM) practices in different employment regimes is associated with job quality and organizational performance. This will help us understand what kind of developmental needs and knowledge gaps workplaces and firms have with regard to job quality.

Drawing on VoC theory, the thesis has made the distinction between CME and LME countries in order to examine whether or not the variation in job quality is similar in different institutional systems. Future research should also make the distinction between the contrasting versions of HRM practices between LME and CME countries in order to examine to what extent HRM practices contribute to lower job quality in LME countries and to higher job quality in CME countries. The literature discusses the LME approach to HRM as a 'hard' version and the CME approach to HRM as a 'soft' version (Klerck, 2014).

In the 'hard' version of HRM, effective management of human resources is likely to be incompatible with the presence of trade unions and extensive state intervention in the labour market (Klerck, 2014). In this context, HR strategies are likely to be integrated into overall business strategy. Labour processes will seldom be designed to encourage initiative and cooperation with employees. In the 'soft' version, on the other hand, employees could be expected to be an important asset to any business organization. HRM strategies would emphasize the need to support, develop, motivate and involve the workforce. In the 'soft' version of HRM, there would be a willingness to invest in skills and organizational development, to build trust and partnership among members and to establish profit-sharing and reciprocal relations in the workplace (Klerck, 2014). The main thrust of the 'soft' version of HRM is that an organization's competitive advantage can best be maintained through its employees. Further research is needed

to investigate whether either of these characterizations of HRM[40] practices actually corresponds to the CME or LME model and how it influences job quality. These results will complement our findings and provide more empirical evidence on the relation between the level of job quality in CME and LME countries and HRM practices.

Overall, further research is needed to describe the disseminations of modern HRM instruments in European countries and to answer a wide range of research questions concerning HR practices and job quality. In particular, it is necessary to investigate the possible causal relationships between the implementation of sustainable HRM approaches, job quality and business performance. The results will aid policy-making, as they will indicate the links how to maintain a certain level of job quality or increase employability in firms.

Improving the empirical basis of research and policy

The proposals for future research outlines above are also in line with the main economic goals of the EU-2020 Strategy and are particularly important in the post-crisis context as long-term recovery and growth depend on the capacity of employees and employers to learn and develop new knowledge and competences in order to make the economy more innovative, competitive and greener. However, in order to be able to realize the EU-2020 Strategy goals, it is firstly necessary to improve the empirical basis of research and policy at the European level on the relations between organization structures and key economic and social indicators in the knowledge-based economy. The EU, through its social programme, has attempted to develop and harmonize working conditions and rights across member countries. There is a recognition that governments need to support both job generation, and, at the same time, maintain or improve the job quality. The European Foundation for the Improvement of Living and Working Conditions (see 2003, 2004) has actively invested in research with the aim of raising employment standards across unions. Furthermore, it highlights the multi-dimensional character of job quality and places specific emphasis on improving each of its dimension. However, as this thesis has shown, job quality is closely related to workplace characteristics and to the institutional context. This suggests that there is a need to develop better harmonized linked employer-employee data with large number of individual and workplace characteristics in order to map organizations and work across Europe and to identify and foster the exchange of best practices. This will help to form a better understanding of the dissemination of advanced management practices in European firms in both public and private sector organizations. Thus more information is

[40] The empirical evidence suggests that neither model accurately represent what is happening within organizations (Almond, 2011; Boselie *et al.*, 2005; Brewster *et al.*, 2006; Gamble, 2010; Rees and Edwards, 2009).

needed about how organizations, both public and private, can be designed to achieve the combined goals of performance and high job quality.

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