

EMPLOY Research Group: Research Overview

Skill Trends, Job Quality and Social Polarization

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The much quoted ‘Lisbon strategy’ that the European Union should adopt the strategic goal for the next decade of becoming ‘the most competitive and dynamic knowledge-based economy capable of sustainable economic growth with more and better jobs and greater social cohesion’ raises fundamental questions for social science research. Most broadly, are knowledge-led skill change, better job quality and greater social cohesion empirically complementary or are there major structural tensions between the objectives? If the latter, what are the main structural tensions and what produces them? Are there institutional conditions that make it more likely that economic growth, job quality and social cohesion will be mutually supportive or that exacerbate the conflict between them? What types of policy lever are likely to be effective in trying to realize a strategy which supports both economic growth and social cohesion in the context of existing social structures?

While the EU’s vision of the ‘knowledge-economy’ was built upon quite widely agreed views about the direction of skill change, its assumption that there would be a virtuous circle between rising skills, better jobs and greater social cohesion was more controversial in terms of existing currents of thought. Some scenarios have suggested that there might be a darker side to such developments. Rather than a general process of improvement in the skills and quality of jobs, it might only involve those in the more educated or privileged sectors of society, leaving aside the low-skilled. In that case, the future would be one of not of increasing social cohesion but of social polarization.

The literature on labour market flexibility that emerged from the late 1980s tended to confirm that economic growth would tend to enhance rather than reduce social divisions. Growing competitiveness and volatility in an ever more global economy would encourage employers to differentiate their workforces between a ‘core’ of privileged employees, with opportunities for skill development, high pay and job security and a ‘periphery’ of lower skilled, poorly paid and highly insecure workers. An important factor, it was suggested, that reinforced the line between core and periphery was the differentiation of employment contracts. Those in the core would tend to be on regular (full-time and indefinite) contracts, whereas those in the periphery would be on non-standard contracts (in particular fixed-term and part-time contracts).

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An important issue in policy terms is how far the beneficial or negative tendencies of the rise of a knowledge-based economy are common to the European societies or are mediated by differences in national institutional structures. From the 1990s a diverse range of theories have emphasized the importance of institutional factors for employment and labour market experiences: emphasizing respectively the nature of welfare systems, education and training systems and industrial relations systems for the extent to which economic change is likely lead to more cohesive or polarized social outcomes. But the empirical evidence was relatively slight.

The research under EMPLOY has focused on the key issues raised by these scenarios of the economic and social change. It has examined whether it is correct that there has been a general upgrading of skills, and if so, whether rising skills have led to a general improvement in the quality of work and whether it has produced increased integration or polarization of those in less favourable labour market positions. In each case, it has been concerned to explore whether there is evidence of significant variation between different national institutional contexts.

The structure of activities in the network meant that, alongside EMPLOY specific projects, there were a range of cross-group projects with other Research Groups – FAMNET, EDUC and INCDIS. This report does not try to cover the full range of cross group projects, many of which are covered by other reports. Rather it draws on those that are most directly relevant to the core research objectives that were initially set for the EMPLOY research group. It is provisional in that some of the most recent projects have yet to complete their work. The research draws on very diverse sources of data – national as well as cross-national. A notable point is that members of the EMPLOY group were closely involved, along with other EQUALSOC members, in drawing up a special module for the European social survey that proved to be a very rich source of new data for many of the projects.

Skill Trends in the ‘Knowledge-Economy’

At the heart of conceptions of the ‘knowledge-based’ economy is the view that, to remain competitive, advanced economies will need to upgrade skills. As the discussion on skills has progressed, however, it has become clear that the notion of skill has often been left disconcertingly vague and that it is inherently complex. As Tåhlin (2007b) argues it is important to distinguish the skill requirements of the job itself and the skill capacities of individuals. These may not be the same and indeed there is evidence of growing mismatch between them. The logic of arguments about the growth of a knowledge economy points to a shift in the nature of jobs, although indicators of skill (particularly as deployed by economists) tend to be based on individuals’ levels of education.

Good comparative data over time with direct indicators of job skill are still not available. But Tåhlin (2007a) has shown that occupational class, as measured in the EGP schema, which is broadly comparable across countries, captures reasonably well the broad skill requirements of the job. It probably underestimates, however, the full extent of skill

change since it does not include skill upgrading within occupational classes (which appears to be more prevalent in some countries (eg the UK and Germany) than in others (eg. Sweden).

Tåhlin's analyses (2006) confirm the view that there is an overall tendency for skill requirements levels to rise across time in countries with very different institutional structures - Britain, France, Germany, Ireland, the Netherlands and Sweden. Between the 1970s and the 1990s, the rise was particularly strong in France, Ireland and the UK, intermediate in Sweden and the Netherlands and comparatively slow in Germany. The broad picture of a rising trend in skills is confirmed by a study by Oesch and Rodriguez (2010) of skill change in Britain, Germany, Spain and Switzerland. Classifying occupations in terms of earnings quintiles, they also found a clear overall tendency to occupational upgrading – driven particularly by the expansion of professional and managerial occupations. In a more detailed analysis of Britain, France, Sweden and the UK, Tåhlin (2007b) shows that in three of the four countries the same pattern was evident in both manufacturing and services, although in Britain it primarily characterized the service sector. The general rise in the skill levels of jobs was particularly beneficial for women, whose skills rose more rapidly than men's in all countries other than France.

A potential caveat to this optimistic picture of skill change is that an overall upward direction of skill change is compatible with some degree of polarization of skills – a pattern of 'polarized upgrading'. Some theories of the impact of technological change have suggested that processes of automation may be leading to a 'hollowing out' of the occupational structure – with the share of higher class and non-skilled employees increasing and that of employees in the intermediary classes (for instance clerical and skilled manual employees) decreasing. Tåhlin (2007b) finds evidence of this for both men and women in Britain, but a more complex pattern for the other countries. There was some evidence of skill polarization for men in Sweden and Germany, but the distribution for women narrowed somewhat in Sweden and was stable in Germany. There was little evidence of skill polarization for either men or women in France. There has been then no general process of polarization, rather the UK appears to be a distinctive case. Oesch and Rodriguez also find that Britain stands out in having seen an increase in the proportion employed in occupations in the lowest paid quintile, although it shared with Spain a particularly strong growth of low paid 'interpersonal' service workers. An important factor underlying these differences they suggest is the pattern of immigration. Where immigration has been high, employers have had easier access to relatively cheap labour for low-skilled service jobs. Also important is likely to be the nature of the institutional framework for wage determination. Where this is strongly regulated, through collective bargaining or minimum wage legislation, the pay of the low skilled tends to be higher and employers have a strong incentive to substitute such labour with new technology.

It is possible that, although there has been a similar overall pattern of upgrading of skills, there are marked differences between countries in the type of skills that are produced. Soskice (1999), in his development of production regime theory, has suggested that there is an important distinction between countries (such as Germany and the Scandinavian countries) that have emphasized the development of 'specific' skills (in the sense of

specialized occupational and firm-specific skills) and those (such as the UK) that have relied mainly on the general skills provided by the educational system. In practice, the distinction between 'skill regimes' is difficult to establish if one takes account of both training before entry to the labour market and initial training after acquiring the job. Using evidence from the European Social Survey, Tåhlin (2007b) shows that the predictions of production regime theory are well supported with respect to pre-entry vocational training. But the UK, with its practice of recruiting among those with general skills, has a higher level of firm specific training than a supposedly 'specific' skills country such as Germany. The differences in 'skill mix' between countries may then have been over-emphasized if one takes account of different phases of the learning process.

Perhaps the most problematic aspect of the trends in skills is that the upgrading of jobs has not kept pace with the increase in the supply of skills, arising from the expansion of national education systems. There has been a very general increase in the extent of skill mismatch – particularly in terms of the proportion of employees in jobs which require qualifications lower than those they actually possess. The extent of such mismatch has become very substantial with between 20 and 40 percent of all workers having more schooling than their job requires. The longest established trend is for Sweden where over-education increased from about 15% of all employees in 1974 to one-third in 2000 (Tåhlin, 2006).

Arguably part of the reason for such mismatch may be that the expansion of specific fields of study in higher education have not been aligned with the areas of growing skill demand by employers. Mismatch in terms of 'appropriate' skills may be lower than mismatch in terms of 'qualification level'. But research suggests that the implications of field of study are complex. Ortiz and Kucel (2008), using German and Spanish data, have shown that the extent of over-education varies considerably depending on the specific field of education. But, in Sweden, match quality with respect to educational field has been constant between 1981 and 2000 (Tåhlin, 2007b). Van der Werfhorst (2008) has established that education in a field such as the humanities, which is associated with higher unemployment risks and over-education is at the same time associated with high occupational status attainment. Barone and Ortiz (Forthcoming) argued that education systems and employment regimes play a key role in creating or avoiding skill mismatch. They found that overeducation is not a serious threat in countries with a highly stratified education system, such as Germany, Austria and Czech Republic. The Nordic countries and the Netherlands experienced mass education expansion, however, due to the high-skilled employment strategy, they managed to absorb the risks of over-education. Only in Spain, they argued, there was a remarkable rise in over-education, because the employment structure failed to incorporate the large number of tertiary graduates. Another factor underlying growing mismatch may be that employers are giving increasing weight to social and personal skills in recruitment (Dofler and van der Werfhorst, 2009), partly reflecting the increased importance of the service sector in the economy. This may help account for the fact that, contrary to previous assumptions there has been a weakening rather than a strengthening impact of education on occupational class attainment (Jackson et al. 2005; Jackson, 2007).

Skill Trends and Job Quality

The EU has as one of its central policy objectives the creation of 'better jobs'. Previous theory and research have generated quite diverse expectations about the relationship between skill trends and trends in job quality. A common view has been that an upgrading of skills necessarily implies improvements in job quality. Higher skilled jobs, it is argued, require greater devolution of job control to employees, to ensure that full advantage is taken of employees' knowledge and to provide the motivation necessary for them to exercise discretionary effort. Further, they encourage employers to provide greater opportunities for skill development to ensure that employees can deal effectively with their new responsibilities. This in turn should be conducive to greater job security, since employers wish to retain the benefits of their investment in skill training.

In contrast, institutional theorists have suggested that the implications of skill upgrading for work quality will be mediated by the particular institutional setting. Production regime theory has emphasized the importance of the type of educational and training regime. It suggests that greater task discretion, employee involvement and job security would be most likely in the 'specific skill regimes' characteristic of 'coordinated market economies' such as Germany and the Scandinavian countries. Where employers draw on the general skills produced by the educational system, as in liberal market economies such as Britain, the emphasis would be on avoiding costly investment in the workforce and retaining flexibility to rapidly adjust workforce size to meet fluctuations in demand. Employment regime theory argues that patterns of work organization are determined by the degree of institutionalization of industrial relations. It is only where unions are strong and employers, trade unions and the state work closely together in policy formation that employment policies will tend to favour managerial policies of work enhancement. Finally, it has been suggested that the nature of welfare state institutions, in particular the extent to which they provide childcare support for working mothers, could affect the impact of work trends on family life.

EqualSOC research has addressed these issues focusing on 'critical case' countries that provide very different institutional settings. In particular it has examined the trends and variations in continuing training, task discretion, work-family conflict, and job security.

Continuing Training at Work

Given the importance of skills for employees' life chances, the availability of employer training is necessarily a fundamental aspect of the quality of a job. Changes in employment and the labour market since the early 1980s have accentuated this. Rapid technological change, and its concomitant of frequent organizational change, requires continuous adaptation of employee skills. At the same time, a more fragile labour market has highlighted the importance of updating skills and maintaining employees' learning capacity if they are to avoid job loss and subsequent labour market marginalization.

Several of the research projects confirm a general link between more skilled work and continuing training at work (Dieckhoff et al. 2007; Tåhlin and Korpi, 2009; Schindler and Weiss, 2008). As Korpi and Tåhlin (2009) point out it is essential to take account not only of formal but also of informal training – indeed in Sweden informal training quantitatively dominates formal. But both are strongly related to the skill level of jobs. A common argument is that one factor underlying this is that more skilled work is conducive to the development of new forms of work organization, based on high performance work practices that emphasize employee involvement and development. O’Connell and Bryne (2010), using data from Ireland, confirm that employees working in organizations that emphasize participation and consultation and that use performance reward systems are more likely to receive training.

Dieckhoff, Jungblut and O’Connell (2007) have examined whether institutional differences between countries in skill formation systems affect the overall incidence of training, the extent and type of inequalities in access to training and the financial returns to training. They make use of the first EU longitudinal study – the European Community Household Panel - that provides detailed information on training histories. Great Britain and Ireland are taken as examples of liberal regimes, and Denmark, Finland and Germany as examples of coordinated regimes. Although France and Spain are difficult to classify in terms of the production regime typology, they are also included for comparison as ‘dualist employment systems’, where the incidence of training could again be expected to be relatively low and its distribution highly polarized as a result of their strong insider/outsider structures.

Training participation was rising in four of the six countries for which they had data over time – Spain, Denmark, the UK and Ireland – and this appeared to be across very different types of institutional settings. But the authors show that there are marked country variations in the incidence of training it is only the Nordic countries that stand out as providing relatively high rates of training. This was the case both in the mid and in the late 1990s. Whereas close to half of Danish and Finnish employees had received some vocational training, this was the case for less than a quarter of employees in other countries in the mid-1990s and less than a third in 2000. The other country usually classified as a coordinated market economy, Germany, was much closer to the pattern to be found in Great Britain than it was to that of the Nordic countries. The liberal market economies – Great Britain and Ireland – also showed a sharp divergence in training levels, and it was only in Ireland that the expectation of a very low volume of training was confirmed. The evidence, however, did support the view that France and Spain, with their ‘dualist employment systems’, would both have low levels of training. Overall, the pattern suggests that it is the employment regime rather than the production regime that best accounts for the extent of training in a country. The authors attribute the distinctiveness of the Nordic systems in particular to their higher union density (which enhances bargaining capacity) and their greater wage compression (which reduces the on-costs of training with respect to pay).

Dieckhoff and Steiber (2009) examined whether women were particularly disadvantaged with respect to training opportunities, and if so how this could be accounted for. They found that levels of training participation were broadly similar by sex. But once account had been taken of human capital, gender attitudes and type of work, there was evidence of a significant disadvantage for women. However, some of the most frequently evoked explanations for women's disadvantage were not supported. There was no evidence that employers discriminated against young childless women or that women planning to have children or with young dependent children were particularly disadvantaged, as might be expected if women were put off training by 'return to investment' calculations or by the adoption of distinct gender roles. Such family factors seemed more important in accounting for men's involvement in training, with those planning to have children or already with dependant children more likely to get training. Finally, the assumption that the strong family policies in the Nordic countries would reduce the gender gap in training (as was the case for the gap in labour force participation) proved to be unfounded.

Task Discretion and Employee Participation

Task discretion refers to the scope for an employee to use initiative and take decisions on the job. Its importance derives from the fact that it provides employees with a means both to make use of their individual creativity in work and to develop their abilities over time. It has also been shown to be a strong predictor of job satisfaction and, more recently, of psychological health in work. Low discretion is one of the few factors that has been found to be harmful for mental health at the workplace in all of the EU-15 countries (Cottini and Lucifora, 2010).

Analyses using large-scale national data sets for France, Germany, Great Britain, Spain and Sweden (Gallie, 2007b) show that a trend to skill upgrading is not necessarily associated with a trend to higher task discretion. Rather there are marked differences between countries. In both Britain and Spain there was an overall decline in task discretion in the 1990s, in France there was no significant change, in Germany it rose (after a period of decline in the 1980s), while in Sweden there was a continuing increase in task discretion for the whole period between the 1970s and 1990s. These contrasts were consistent with the view that the type of employment regime was an important factor influencing the relationship between skill upgrading and task discretion. The only consistent evidence of increase is in the country with the most strongly institutionalized labour movement and strong quality of working life policies. The two countries where there was an overall decline had low or very rapidly falling union density, together with an absence of national quality of work life programmes.

Further research, using the European Working Conditions Surveys, looked at three different modes of employee influence – task discretion, collective teamwork influence and finally consultative involvement through management (Gallie, 2009). The evidence indicated that employee influence over work was rather more strongly related to the nature of the overall industrial relations system or type of employment regime than to the 'skill specificity' of the educational and training system as argued by production regime

theorists. The pattern that emerged was highly consistent: for each type of influence the Nordic countries stood out as offering employees significantly more control over their jobs and they were quite distinct from Germany, which either came lower than, or at a similar level to the UK. It seems probable that strong vocational training systems per se may be a source of rigidity in work organization. They are likely to involve highly codified job rules that limit the scope for individual interpretations of the task and act as disincentives for new developments such as team working. The distinctive characteristic of the Nordic countries is that they overcame this problem through work reform programmes that emphasized the development of teamwork. This was facilitated by a very secure industrial relations environment due to the presence of powerful trade unions and governments committed to progressive policies with respect to working conditions.

Work Intensity and Work Family Conflict

A significant part of research conducted under the joint EMPLOY-FAMNET theme focused on developments with respect to work-family reconciliation. Part of this has been covered within the FAMNET report. The focus here is primarily on those analyses that examined the work factors that were important in determining work-family conflict and the light these throw on the potential tensions inherent in the growth of high employment knowledge-based economy. With respect to institutional differences, one expectation would be that important factors mediating the impact of work pressures on work-family tensions would be the strength of employment regulation (especially regarding working hours) and the extent of childcare support provided by the welfare state.

The evidence suggests that the rising skill trends in advanced societies, associated with the growth of 'knowledge-based' economies, accentuate work-family conflict. Scherer and Steiber (2007) - using the 2002 International Social Survey (ISSP) and two Eurobarometer surveys - show that, although the overtime pattern in work-family conflict is one of relative stability, the higher an employee is in the occupational hierarchy, the greater the work stress tends to be. An important factor underlying this is that highly skilled employees tend to work longer hours. Women's working hours tend to monotonically increase with occupational category, with by far the longest hours being worked by those in the highest ISCO category. Among men, by contrast, this relation is not linear. Comparatively long hours are worked in the two highest ISCO categories and among the self-employed, but also by craft and related trades workers, machine operators and assemblers. The shortest hours are worked by clerks and elementary workers. It had been expected that this might be partly offset by the greater responsibility and task discretion that is associated with more skilled work, but this did not prove to be the case. Similarly, McGinnity and Calvert (2009) in an 8 country study using data from the 2004 ESS, found that those in the most skilled positions had the highest levels of work-family conflict and that class differences varied only modestly across countries. They attributed this to the longer working hours and greater work pressure in such jobs. This did not reflect people's personal preferences about hours of work, since the more skilled particularly wanted to reduce their current hours. But the pressures of career progress and

the responsibility that accompanies greater job autonomy are likely to have reinforced the high level of work demands.

How far did differences in institutional system affect levels of work-family conflict? Scherer and Steiber (2007) address these issues by focusing on six countries - France, Germany, Great Britain, Spain and Sweden, and the Netherlands. The country differences in the experience of work-family conflict were far from what might be expected on the assumption that high welfare provision would be reflected in reduced difficulty in reconciling work and family life. In terms of welfare support for employment, Sweden usually emerges as an exemplar country. But the level of work-family conflict among Swedish women was second only to that of Spanish women and notably higher than that for women in Britain where welfare support is relatively rudimentary. The country that stood out as most successfully balancing work and family life was the Netherlands. The authors argue, from the evidence of a selection model, that the explanation for the apparent paradox of high welfare associated with high work-family stress lies precisely in the efficacy of the welfare system in making it possible for women, particularly those with caring responsibilities, to enter and remain in the labour market. Whereas in the Netherlands the participation rate of mothers is as low as 37%, it reaches 85% in Sweden. As a result, the employment system in Sweden incorporates a much higher proportion of women who are likely to find it particularly difficult to combine work and family life.

Gallie and Russell (2009), using a different data set - the special module of the European Social Survey conducted in 2004, focused upon a comparison of Denmark, Norway, Sweden, the Netherlands, Germany, France and the UK. They found a marked difference in the country pattern for men and for women. Men had the lowest level of work family strain in Norway, Sweden, the Netherlands and Denmark. This could be seen as a consequence of the type of employment regime : a key feature of these more tightly regulated economies is that they do not impose long working hours on male employees and workers are given greater flexibility in their working times. In contrast, the level of work-family strain varied relatively little for women and such variation that existed did not fit well any particular regime expectations. The highest level of strain was among French female employees, followed by the Danish and the Swedes. As with Scherer and Steiber, it is clear that the welfare regimes of the Nordic countries, with their stronger emphasis on caring provision, did not lead necessarily to lower levels of work-family tension for women. Their explanation of this is however rather different. Instead of attributing it to the capacity of strong welfare states to attract a higher proportion of women into the labour force women, they find that much is due to the higher work demands on women in the Nordic countries. Women in these countries are more integrated in the workforce, but this is associated with longer working hours and higher levels of job pressure. The relatively long hours of work and high job pressure cancel out any impact of greater support for caring.

Both studies show that the Netherlands does particularly well in having relatively low work-family conflict for both men and women. A major factor underlying this is the widespread availability of part-time work. More generally, an important point to emerge from both pieces of research is that discretion over working time – in the sense of the ability to control the starting and finishing times of work - reduces work-family conflict.

But a more detailed study focusing on Ireland (Russell et al. 2009) showed that this was not true for all types of work-time flexibility measure. While part-time work and flexitime were effective in reducing work pressure and work-life conflict, working from home had the opposite effect and increased both work pressure and the difficulties of reconciling work and family life.

Job Stability and Security

Perhaps the most negative predictions about the implications for job quality of the shift to a 'knowledge-based' economy have been with respect to job security. It has been seen as implying a more rapid pace of technological change which requires a greater capacity to be flexible in terms of both organizational restructuring and employment levels. At the same time, it is associated with an increased insertion in a specialized global economy with higher risks of volatility in demand. Arguably the impact of increased economic uncertainty will depend in part upon the nature of national employment policies and labour market institutions. Governments may intervene more or less strongly to offset fluctuations in external demand and employment protection regulations may make it more or less easy for employers to fire their employees.

Paugam and Zhou (2007) examined trends and levels of job insecurity in the second half of the 1990s, when technological change and internationalization were developing rapidly. They focused on Britain, Denmark, France, Germany, Sweden and Spain. Examining the period from 1996 to 2001, they found no uniform direction of change: employees' perception of job insecurity declined in Britain and Denmark whilst it increased in France, Germany, Sweden and Spain. There were important variations between countries in the extent of perceived security. Denmark had the highest level of security at both points in time, followed by Britain and Sweden. Germany was intermediate, while French and particularly Spanish employees experienced much lower levels of security. The strength of employment protection legislation was clearly not the underlying factor here, since Denmark had relatively few constraints on employers' freedom to hire and fire. The inter-country pattern corresponded reasonably well with the reality of unemployment rates, and the exceptional position of Denmark may well have reflected its relatively early introduction of 'flexicurity' policies that provided particularly strong protection with respect to level of unemployment benefit and active labour market policies to facilitate re-employment. This is reinforced by the higher quality of jobs in Denmark. The authors argue that the real risks of marginalization with job loss will be affected by how far job insecurity is linked to poor quality of work on other dimensions. Those who experience job loss are likely to find it much more difficult to find work again if they have been in jobs that made few demands on their skills and initiative and provided few opportunities for updating their knowledge. Insecure jobs in Denmark and Sweden were of the highest quality, while they were the worst in Germany. France, Britain and Spain came in an intermediate position.

Korpi and Tåhlin (2006) examined job stability over a much longer period (1974-2000) in Sweden, where the economy is particularly dependent on trade with the outside world and should therefore have been significantly affected by the greater vulnerability of employment thought to result from an internationally specialized economy. However, contrary to the globalization thesis they found a trend towards more rather than less employment stability in recent decades.

In short, while advanced economies can clearly still be subject to major economic shocks that generate widespread insecurity, there is no evidence of an underlying growth of structural insecurity.

Social Polarization in the Labour Market

Predictions of growing labour market polarization have focused in particular on two lines of growing division in the workforce. The first is between employees on regular contracts and those on non-standard contracts, mainly those on temporary and part-time contracts. The second is between the more skilled occupations and the low skilled.

Temporary Work

A scenario of polarization would lead to an expectation that there would be an increasing proportion of the workforce in temporary work. Over the period 1998 to 2008, temporary work rose from 13% to 14% of all in employment in the EU15 and from 11.5% to 14% in the EU27.

There is, however, a very marked variation in prevalence between European countries – from only 7% of the UK workforce in 2000 and 5% in 2008 to 32% and 29% respectively in Spain. Polavieja (2006) investigated the source of these differences for the EU-15. He found little effect of differences in the productive structure of countries or in demographic factors that could potentially create ‘crowding effects’. Rather the key determinants were institutional: the degree of institutional protection of standard employment and the degree of coordinated centralization of industrial relations. High levels of protection and weakly coordinated industry-level bargaining had particularly strong effects in a context of severe unemployment shocks – accounting for the distinctive level of temporary work in Spain, even when the main institutional factors had been taken into account.

Barbieri (2009) has argued that the growth of temporary work has been the source of greater entrapment and deeper social cleavage in some countries than in others. In Northern Europe (whether in liberal countries such as the UK and Ireland or in the more generous welfare societies of Northern Europe) the transition rates from temporary to permanent work are relatively high and the costs of a period in temporary work for

broader social entitlements are relatively low – either because (in the liberal countries) provision is generally poor or because (in the Nordic countries) of more universalistic welfare systems. It is in the countries of Continental and Mediterranean Europe that temporary work is most divisive. These have strong employment protection for ‘insiders’ making exit from temporary jobs more difficult and the contrast between the work conditions of the privileged core and those in the insecure secondary labour market much greater. This has been accentuated by a process of ‘partial’ or ‘targeted’ deregulation, which has weakened the position of those in the secondary labour market while protecting the privileges of those with regular contracts. At least for Italy, the evidence indicates a process of increasing entrapment in the secondary labour market across time (Barbieri and Scherer, 2009). The impact of such disadvantage tends to be concentrated on the relatively vulnerable – the young and women, who are new entrants to the labour market, and (in Germany) the low-skilled. At the same time, the job inequalities produced by atypical employment are accentuated by the welfare systems in these countries. These are primarily insurance based and therefore penalize those without continuous full-time employment. Prolonged exposure to insecure employment therefore reduces long-term social entitlements and heavily disadvantages people in their later lives.

The evidence is generally consistent that temporary workers hold jobs of poorer quality. Most evidently they experience lower job security and higher unemployment risks than comparable individuals in regular jobs (Paugam and Zhou, 2007; Giesecke, 2009). But they are also disadvantaged in other aspects of their work situation. In contrast to the expectations of compensatory wage theory, temporary workers get paid less than permanent employees even when human capital and firm characteristics are held constant (Barbieri and Cutuli, 2009; Gebel, 2009; Giesecke, 2009). However, the wage penalty disappears over time. In Germany temporary workers catch up with permanent workers by entering steeper wage trajectories (Gebel 2010). Correspondingly, they are more likely to see their household income situation as problematic and experience greater financial anxiety (Scherer, 2009). They are less likely to be in jobs that offer intrinsically rewarding work. A comparison of France, Germany, Sweden and the UK (Gallie, 2007a) showed that they have lower task discretion in all countries. They also experience lower levels of variety in their work (Scherer, 2009).

Another issue that has received attention has been who enters and who exits temporary employment. Certain groups in society were found to be more prone to take up temporary contracts, such as the younger cohorts, women (in Germany, the UK, Italy and France) and tertiary graduates (in Germany, Italy, and the UK) (Barbieri and Cutuli 2009, di Paolo *et al.* 2010, Gebel 2010). With respect to exits from temporary employment, the main focus had been on whether temporary jobs lead to entrapment, or if they help to integrate employees into labour market, was tested. Gebel (2010) compared Germany and the UK and found that, in Germany, those who entered the labour market via temporary contracts were more likely to have repeated and longer spells of temporary work. However this effect fades away after five years. In the UK repeated spells were found to be less pronounced. However, leaving employment for further education was more common and the risk of unemployment greater. For France di Paola *et al.* (2010) found a weak and diminishing entrapment effect of atypical jobs.

An argument sometimes advanced in favour of greater contractual flexibility is that it may help with the reconciliation of work and family life. But, in an analysis of 16 West European countries, Scherer (2009) found that temporary employees were less likely to intend to have children in the future, had relatively less time for their family and experienced a higher level of conflict with their partner – effects that could be mainly attributed to the worse working conditions and greater insecurity of their jobs. Similarly for France di Paula *et al* (2010) found that women in temporary contracts delayed somewhat their transition into motherhood compared to those in permanent contracts. More generally, temporary work had a significantly negative effect on people's life satisfaction and happiness. The disadvantages of temporary work for work conditions and family life are very general across countries with different institutional structures, although in more dualistic countries (with strong employment protection legislation) temporary workers report higher household income problems and even less satisfaction with their overall life situation.

Part-Time Work

A second line of contractually-based labour market division is that between part-time and full-time work. For some writers, it is viewed as a way in which employers have been able to segment the labour market, creating a separate sector of peripheral jobs in which employees are trapped in poor quality work and employment conditions. In particular, part-time work is held to lead to cumulative disadvantage with respect to skill, pay and working conditions. Others have emphasized the positive qualities of part-time work, in particular for facilitating work-life balance.

Halldén *et al.* (2008) examined the implications of female part-time work for job skills in Britain and Sweden. An immediate point to note is that the structure of part-time work is quite different in the two countries. A much higher proportion of British part-timers were in marginal part-time work (1-19) hours than was the case in Sweden (46% compared with 13%). Conversely, Swedish part-timers were substantially more likely to be in 'longer-hour' part time work (30-34 hours): 40% compared to 5% in Britain. The results showed that Swedish female part-timers held more skilled jobs than their British counterparts. Institutional factors would appear to shape the nature of part-time work in that differential child care support provides a plausible account for the higher hours worked by Swedish part-timers, while part-timers shared in the generally more skilled jobs associated with stronger national policies of work life reform. However, this did not imply greater integration in the sense of convergence between the conditions of male full-time and female part-time jobs: the relative disadvantage of female part-timers compared to men working full-time was equally strong in Sweden as in Britain. There was little evidence of a trend to polarization: British female part-time workers saw a significant improvement in the skill level of their jobs from the early 1990s to the mid-2000s relative to male full-timers, while there was no significant change over time in Sweden.

Working part-time also involved higher risks of low pay. Comparing Denmark, Germany, Italy, the Netherlands, Spain and the UK, Blazquez and Salverda (2009) found that part-time work was associated with a higher risk of low pay in all countries. The effect was particularly strong in the North European countries, where the risk of low pay among part-timers was more than 70% higher than among full-timers. Indeed, except in the case of Italy, working part-time increased the risk of low pay more strongly than having a temporary contract. Part-timers also experienced greater entrapment over time than full-timers. They had a higher risk of remaining low paid between years and a lower probability of upwards earnings mobility over time. This was particularly the case for those with 'marginal' part-time jobs (less than 15 hours). It was only among part-timers in the Netherlands working 15 to 29 hours that there was no penalty with respect to pay transitions.

With respect to working conditions, Gallie *et al.* (2010) examined the disadvantage of part-timers in Germany, the Netherlands, Sweden and the UK. They focused on the learning opportunities provided by the job, task discretion, the repetitiveness of work and work intensity. In all countries part-time work was associated with poorer learning opportunities on the job. The only aspect of work in which part-time jobs were better was that they involved lower levels of work intensity. Compared to male full-timers, female regular part-timers (working 15 to 29 hours) were disadvantaged with respect to work quality in Britain and the Netherlands and the UK, while marginal part-timers were disadvantaged in Britain and Sweden (although they constituted a very small proportion of the part-time workforce in Sweden). Poorer intrinsic job quality, however, did not necessarily imply lower job satisfaction. In both Germany and Britain, marginal part-timers were more satisfied with their jobs than female full-timers, while in the Britain and Sweden there was no difference by contract status. An important factor accounting for this is likely to be that part-time work facilitated a better balance between work and family life (Scherer and Steiber, 2007).

Gash *et al.* (2009) explored the relationship between contractual status and broader life satisfaction in a comparative study of the UK and Germany. They examined the impact on life satisfaction of women's transitions from full-time to part-time work, from part-time to full-time work and from non-employment to both full and part-time work. They found that in both the UK and Germany, women who switch from full-time to part-time employment report increased life satisfaction. However, this was only the case for those who decreased their hours while remaining with the same employer. Moreover, it is notable that shifts from part-time to full time work did not lead to decreased well-being, while moving from non-employment to a part-time job increased well-being somewhat less than moving to a full-time job. This suggests that there is no general relationship between type of 'working hour contract' and life satisfaction; rather different types of contract suit women best in different circumstances.

However, an analysis of labour market transition patterns suggested that part-time work involved a higher level of constraint in some countries than in others. Gash (2008) found that part-timers in Denmark and France had similar transition rates to full-time work to those of average job-to-job transitions. In contrast, UK part-timers were very different,

staying longer in their jobs than equivalent full-time workers. Further, while in Denmark and France there was no negative effect of having young children on women's transitions from part-time to full-time employment, in the UK young children significantly reduced such transitions. This suggested a considerable segmentation of the UK part-time labour market, whereas this was not the case in either France or Denmark. The availability of good quality affordable childcare, she argues, was a major factor in determining the level of segmentation.

The Low Skilled

Apart from differential contract status, concern about the implications of the shift to a knowledge-based economy for social divisions has focused on the position of the low skilled. As the general skill level shifts upwards, there is a risk that the low skilled are left behind and become increasingly vulnerable in the labour market. A number of papers examined the disadvantages that the low skilled experience with respect to pay, training and job security.

Several papers demonstrate the tight connection between low skill and low pay (Nolan et al. 2009; Gallie et al. 2009; Rohrbach and Alda, 2009). Nolan et al. show that lower service and routine employees have substantially higher risks of low pay in all of the 15 countries they examined. But there are marked variations in relative disadvantage between countries even within Western Europe. They estimate that the relative odds of low pay among the low skilled compared to professionals and managers ranged from a low of 5.68 in Austria and 6.19 in France to highs of 13.5 in the UK and 17.8 in Luxembourg. While low pay isn't necessarily associated with household financial deprivation, they show that it substantially increases the risk both of household income poverty and of economic vulnerability in terms of a multi-dimensional measure taking account of income poverty, deprivation with respect to everyday consumption items and financial insecurity.

There was also strong confirmation by a range of studies of the training disadvantage of the low skilled. Dieckhoff et al. (2007) show that there are strong class effects in all of the seven countries they investigated. Korpi and Tählén (2009) and Schindler and Weiss (2008) argue that the low training participation of low-skilled employees is a function of the types of jobs that they are in rather than of employees' own educational or motivational backgrounds. Employers have little interest in providing training for the low skilled, since, given that the requirements of the work, they will derive little benefit from employees having higher levels of competence. Korpi and Tählén find that in Sweden employees with higher levels of education than their job required did not receive more training than those whose own education was at the same level as the requirements of the job. In contrast, Fouarge et al. (2009) on the basis of evidence from the Netherlands emphasize the importance of intrinsic motivation. They found that the low-skilled were significantly less motivated to participate in training. This could be accounted for in terms of both non-cognitive skills (personality, locus of control and future orientation)

and psychological anxiety. They found that it had little to do with either lower returns to training with respect to earnings and risk of unemployment or perceived opportunity costs. There is evidence, however, that institutional factors may help reduce the training disadvantage of the low skilled, either by providing stronger incentives for employers to train or by encouraging the upgrading of jobs. Dieckhoff *et al.* (2007) found marked gross country differences: both in the mid-1990s and in 2000, the low skilled were less disadvantaged in Denmark and Finland than in France, Spain and Ireland. Their position in the UK was highly disadvantaged in the mid-1990s, but improved over the period. Using LFS data for 2003, Gallie *et al.* (2009) show that the Scandinavian countries have the highest level of training for the low skilled. Nearly one in four had received some training in Denmark, Finland and Sweden compared with only 14% in the UK and less than 10% in Austria, Germany and Spain.

The evidence also clearly links low skill to job insecurity. Taking as a measure of insecurity the likelihood of having had a spell of unemployment in the previous twelve months, Gallie *et al.* (2009) found that the low skilled had higher levels of unemployment in countries with very diverse institutional settings: Austria, Germany, Spain, the UK, Denmark and Finland. The only exception was Sweden, where the low skilled (those in ISCO-88 elementary occupations) had the second highest rate after clerical and machine operators. There was no clear cut pattern by type of welfare or employment regime. Although Denmark and Sweden stood out as having relatively low class differentials, those in Finland were, together with the UK, the highest of all countries. In absolute terms, the insecurity of the low skilled was clearly heavily dependent on the overall state of the labour market: it was lowest in the UK, reflecting its relatively low rate of overall unemployment. Although the high insecurity of the low skilled seems well confirmed, we know rather less about trends over time. Korpi and Tählin (2006) however have shown that, in terms of jobs tenure, male workers in low skilled jobs in Sweden reached a higher level of job stability over the period 1974 to 2000. It was high and more or less constant from 1974 to 1991 and then dropped considerably, until it was not significantly different from those in mid-skill jobs. They also found that no evidence of a growing disadvantage for the low educated in unemployment risks. Overall they conclude that there is little support for arguments of polarization in terms of growing differences in insecurity between the low and the higher skilled.

Conclusions

The EU's employment strategy sees the key to economic success as lying in a rapid shift to a knowledge-based economy, which would enhance global economic competitiveness. The contributions of EMPLOY researchers have confirmed one of the core assumptions of this scenario – namely that there is a strong overall tendency for the skill levels of jobs to rise over time. This is the case both for men's and women's jobs and it has affected both manufacturing and service industries. Moreover, it has been shown that this is not accompanied by any general process of skill polarization, in the sense of a marked expansion of both high and low skilled occupations alongside a decline in intermediate occupations, although there is evidence that this may have taken place in the UK and the

US. The more problematic side of skill trends has been the growing mismatch between the educational qualifications required for jobs and the qualification level of employees themselves. There has been a growing phenomenon of 'over-qualification', with employees holding higher qualifications than are necessary for the type of work they are doing. While a range of different factors may have contributed to this, the fact that it is known to be associated with lower levels of satisfaction in the job, suggests that employers are constructing jobs in a way that fails to make full use of the potential of the workforce.

A core objective of the European Union is that the growth of a more competitive knowledge-based economy should be accompanied by an improvement in the quality of jobs. Indeed, many would argue that this is essential if employees are to have the level of motivation required to carry out well highly skilled work. The EMPLOY evidence provides a picture of very mixed results on this front. It confirmed that there has been a tendency for an increased provision of on-the-job training, although the extent of this varied very substantially between countries. In contrast, there has been no consistent trend with respect to task discretion – that is to say the control that employees have over their immediate job task. In some countries, such as Sweden, it increased, in others, such as the UK and Spain it declined. This is important because task discretion has been consistently shown to be one of the key factors that affect not only employee motivation but also employee well-being and health. An important feature of job quality is also how far work is organized in a way that enables people to achieve a balance between their work life and their domestic lives. Rising levels of skill in the European economies may have made this more difficult, rather than easier, to achieve. Those in more skilled jobs tend to work longer hours and are subject to greater pressure at work and both factors contribute to the fact that they are more likely to report problems of work-family conflict. Finally, the evidence with respect to job security, suggests that, at least prior to the current recession, the overall pattern was one of relatively little change over time. There was no confirmation of the generalized growth of insecurity predicted by some commentators on the consequences of globalization. Overall, it is clear that a process of skill upgrading does not in itself produce a trend to better quality jobs, rather jobs of similar skill level can be organized in very different ways with different consequences for employee well-being. The EU policy objective of a general rise in job quality was largely unsuccessful in achieving significant progress. However, there was also little support for some of the more pessimistic scenarios of a marked deterioration in work conditions.

Another core objective of EU policy was that the rise of highly competitive knowledge-based economy should lead to greater social cohesion. Critics have argued that increased competitiveness may instead lead to greater social division – partly through an increased differentiation between employees on different types of contract and partly through an increased risk of exclusion of the low skilled. A frequent argument has been that the need to maximise flexibility will generate pressures for employers to increasingly adopt policies that demarcate 'core' employees in relatively good and secure jobs from 'secondary' employees who will have poorer work conditions - in particular temporary and part-time employees. The evidence from EMPLOY research was relatively consistent about the marked disadvantages experienced by employees on temporary work contracts.

They not only had lower security, but also lower pay for equivalent qualifications and poorer quality jobs. The work situation of part-time employees was more complex. In most of the countries examined, they had a higher risk of low pay and experienced lower intrinsic job quality with respect to task variety, the initiative they could exercise at work and the opportunities for self-development. But at the same time, they were less likely to experience high levels of work pressure and they appeared to be as satisfied with their jobs as full-time workers. It seems possible then that lower intrinsic job quality may have been at least partially offset by the better opportunities to reconcile work and domestic demands made possible by shorter working hours. Finally, the vulnerability of the low skilled was clearly confirmed by the research, whether in terms of risks of low pay, limited opportunities for self-development and high job insecurity. It is particularly the marked disadvantage with respect to training opportunities that gives grounds for concern that they may be increasingly left behind in an economy based on rising skills. Evidence on trends over time in the disadvantage of those on non-standard contracts and the low-skilled is however still not readily available, largely due to the paucity of good data sets. Such evidence as we have did not generally point to the type of marked relative deterioration in working conditions that would be consistent with a scenario of social polarization, although this may well have been the case for temporary workers in Italy.

While there was a general tendency for skills to rise across the European societies, the research revealed significant national variations both in the general quality of jobs and in the extent of core-periphery workforce division. Most consistently, the Nordic countries appeared to have achieved more substantial progress in improving the quality of jobs. They provided more extensive opportunities for the on-going development of employees' skills, they designed jobs that gave people greater control over their work, they gave greater protection from low pay and they provided better security nets in the event of job loss. The main dimension of work quality where their record of success was less evident was with respect to work-family balance. While men may have been advantaged through stronger regulation of working hours and more family-centered employment policies, the stronger support for childcare provide by the Nordic welfare regimes was not sufficient to offset for women the pressures that arose from more extensive integration into the employment system. Moreover, while generally better work and employment conditions in these countries benefited more vulnerable categories of employees as well as the more skilled and those on standard contracts, there was no consistent evidence that such policies had created greater integration in the sense of reducing differentials between different categories of employee. The EMPLOY research, then, revealed both the real potential for effective policy intervention to improve the quality of work and the powerful structural mechanisms that underpin social inequalities.

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