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Workshop paper

The Vulnerability of the Low-Skilled

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Abstract:

The low-skilled are a critical category for analyses of labour market marginalization. Class analysis has tended to depict low-skilled employees as sharing a broadly similar position with respect to both employment and labour market conditions. Their employment relationship is defined by a specific type of contract – the labour contract – characterized by precarious pay, low asset specificity and high job insecurity. This contrasts with employees who benefit from a service relationship which is designed to bind employees to the organization on a longer term basis. Recent neo-institutional theories however have emphasized the diversity of employment conditions between advanced capitalist societies, depending in particular on the nature of their production, employment and welfare regimes. An important issue is whether such divergences apply only to more skilled categories of the workforce (and hence lead to accentuated polarization) or also affect the employment conditions of the low-skilled. Are the low-skilled significantly more integrated into the labour market in some countries than in others and hence less vulnerable in times of economic restructuring? The paper will examine this by comparing a number of EU-15 countries that have been regarded as reflecting contrasting institutional regimes. It will focus in particular on the position of the low-skilled with respect to pay, training and job security.

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1. Introduction

The low-skilled are a critical group for the analysis of labour market marginalization, as they have traditionally borne the heaviest costs in terms of unemployment in times of economic recession. Their ability to cope with job loss is likely to depend significantly on their experiences in employment. Research on the unemployed has shown the limited efficacy of emergency programmes designed to 'activate' the unemployed through short spells of training, job guidance and financial pressure. It points instead to the importance of examining the employment conditions of the low skilled and the extent to which these provide resources that enhance longer-term employability.

There are in particular three central aspects of the employment conditions of the low skilled that are likely to play an important role with respect to the capacity to reintegrate into employment in the event of job loss. The first is whether or not the job pays enough for people to be able to build up a financial safety net that can support them in periods of financial difficulty. It can be expected that those in jobs which are low paid (conventionally defined as less than two thirds of median earnings) will be particularly unlikely to have been able to develop any type of financial reserve and will be highly exposed to financial deprivation on job loss. Financial deprivation, in turn, has been repeatedly shown to be the primary factor in the extent of psychological distress brought about by unemployment. Psychological distress is likely to undermine people's self-confidence, reducing their ability to actively seek work or to perform effectively when applying for a vacancy. Further when incomes fall abruptly it is likely to be difficult for people to sustain their place in their pre-existing social networks, as they will be unable to reciprocate in joint social and leisure activities. There is a risk that they either become isolated or are confined to social networks that are comprised largely of other unemployed people. This locks them out from informal information networks that are crucial for finding work and intensifies psychological distress, potentially creating a vicious spiral of social exclusion.

A second factor is the extent to which their jobs provide them with opportunities for enhancing their skills. The effectiveness of re-training assistance for the unemployed is likely to be heavily dependent on the extent to which people have preserved learning skills. Research on employment has shown a high level of diversity in terms of the opportunities people have in work to learn on the job – whether through formal training or through on-the-job learning. Arguably those who have been in work situations where they have been able to develop their knowledge and abilities will be much better equipped to take advantage of retraining opportunities and will be more self-confident in seeking types of work that involve re-skilling, thereby enhancing their chances of relatively rapid job acquisition.

Finally, future employment opportunities are likely to depend on the prior stability of the jobs people are in. One aspect of this is whether the job is a temporary (fixed-term contract) or regular job. The other is whether or not the person has had a recent experience of unemployment. In both cases, an important underlying mechanism is likely to be specific skill deficit. Temporary workers and those who have been recently unemployed are less likely to have had the opportunity to benefit from in-firm training provision and they are less likely to have the extended work experience that provides the basis for on-the-job learning. For those with experience of unemployment, this is compounded by the evidence of the scarring effect of unemployment. The mechanisms underlying this are still poorly understood. But any extended period out of work is likely to accentuate problems of skill

deficit, as people are unable to keep pace with new techniques or practice their existing skills. Repeated spells of unemployment may also constitute a negative signal for employers when looking for a new job.

The central issue we address is the vulnerability of the low-skilled in terms of these different job characteristics. It is also important to know whether there is a difference between countries in the extent to which the low skilled are exposed to work conditions that undermine longer-term employability? In practice we have little detailed knowledge for addressing such questions, particularly on a comparative basis. This reflects the fact that, until recently, there has been a lack of adequate data for a detailed examination of the employment conditions of particular categories of employee. While comparative survey data on work conditions increased from the mid-1990s, most surveys provided relatively small sample numbers at national level. The robustness of the evidence dissolved rapidly once an attempt was made to disaggregate the data to examine risks at a more detailed level.

This paper seeks to use the large-scale comparative data sets of the European Labour Force Surveys and the European Survey on Income and Living Conditions to provide an assessment of the vulnerability of the low-skilled in different countries of the European Union. In particular, it seeks to examine whether differences in institutional regime mediate such vulnerability, by providing greater protection for the low-skilled in some countries than in others.

Theoretical Approaches and Low-Skilled Work

There is a long tradition of class analysis in the sociological literature that underlines the vulnerability of low-skilled work as an inherent feature of the employment relationship. Although rooted in a long tradition of Marxian scholarship on the relationship between skill and job substitutability, the argument has been most clearly elaborated in the more recent literature by Goldthorpe drawing on organizational economics and transaction cost analyses (Goldthorpe 2000).

The starting point in such class analysis is that employment contracts will need to take on different forms in relation to the different kinds of work task and work role that employees are required to undertake. It highlights two fundamental ‘hazards’ that have to be taken into account in designing the employment relationship – the difficulty of monitoring work and the degree of asset specificity of the skills, knowledge and expertise used by employees in performing their work (reflected in the degree to which productive value would be lost if these assets were to be transferred to some other employment). The most efficient type of employment relationship will differ for employees in positions where monitoring costs and asset specificity are low compared to those where they are high. In the former, exemplified in its ‘pure form’ by the position of the low-skilled, it can take the form of discrete short-term exchange of money for effort (a ‘labour contract’ much like a spot contract). In modified form, it also partly characterizes the situation of skilled manual and lower-grade non-manual occupations. In the conditions of the labour contract, there is no attempt to secure the relationship between employer and employee on a long-term basis, there is little purpose in encouraging workers to invest in human assets specific to their present employment and turnover is not regarded as a significant cost given high levels of substitutability. This

contrasts with the situation of professional, administrative and managerial occupations, whose work is highly specialized and often involves delegated authority. For these employees monitoring costs and asset specificity are high and the nature of the employment relationship is based upon a need to encourage high levels of commitment and long-term attachment.

From the point of view of class theory, then, the broad expectation is that patterns will be very similar for low-skilled employees in different advanced capitalist societies. Pay will be kept to the minimum required to obtain requisite effort, training will be absent and the employment relationship will be inherently insecure.

In contrast to this approach, the last two decades has seen the emergence of a new literature focusing on differences between advanced capitalist societies. This perspective can be traced back to the development of 'societal theory' in France in the 1980s, which argued (through a detailed comparison of work organization, labour markets and education in France and Germany) that specific countries have quite different social dynamics as a result of distinctive institutional configurations that had emerged through quite different historical trajectories. In the 1990s, this approach was modified through theoretical perspectives that argued for the importance not of country-specific patterns but of different types of regime that characterized groups of countries. Such regimes were constituted by similar core institutions that generated common patterns of social relationships despite other secondary differences in country institutional patters.

The two regime perspectives that are most germane to issues addressed here are production regime and employment regime theories. Production regime theory sees employer production strategies as varying with respect to their emphasis on diversified quality production or mass production (Soskice 1999). This leads to the development of quite different skill formation systems, varying in terms of their focus on the production of general or specific skills. Countries with a primary focus on specific skills fall into the category of coordinated market regimes, whereas those that focus on general skills are termed liberal market regimes. Germany and the Scandinavian countries are cited as examplars of the former, the UK and the US of the latter. Coordinated labour market regimes are thought to generate substantially better work conditions and investment in individual training than liberal market regimes. However, within the production regime theory literature there has been some divergence about the scope of such benefits for employees. The early literature seems to imply that they are workforce wide, which could be expected to lead to better conditions even among the low skilled (Soskice 1999). Later contributions, however, have argued for the dualistic nature of such regimes, with the benefits primarily accruing to those whose labour market position is best suited to the development of specific skills. For instance, it is suggested that female employees may be largely excluded from such benefits as a result of their more discontinuous work careers (Estevez-Abe et al. 2001).

The employment regime approach is rooted in the insights of the earlier welfare regime literature (Esping-Andersen 1990; Korpi 1978; Korpi 2006; Stephens 1979) which argued that a key determinant of institutional structure is the power of organized labour in terms both of union strength and the duration of social-democratic party control of the state. Where unions have strong membership and are significantly involved in national decision making and where social democratic parties have been in control for long periods of time, employment and social policies can be expected to be more inclusive, with higher benefits for those in more marginal positions. Such 'inclusive regimes' could be expected to be particularly beneficial with respect to the low skilled. In contrast, the coexistence of relatively

powerful organized labour with centre-right (often Catholic) parties could be expected to lead to a relatively dualised employment structure, where benefits fall mainly to more skilled core employees. Finally, much as in production regime theory, liberal market regimes are generally depicted as having the worst outcomes. This follows from their emphasis on a strict relationship between market value and reward and on the need to ensure flexibility in the interests of competitiveness. The Scandinavian countries are seen as exemplars of inclusive, Germany of dualist and Britain of liberal market regime types.

In terms of the vulnerability of the low-skilled, these different theoretical perspectives lead then to rather different predictions about the patterns that should characterize the low skilled in different countries:

1. Class theory emphasizes the broadly similar implications of the labour contract employment relationship for the low skilled.
2. Early versions of production theory lead to the expectation that the low skilled should have significantly better employment conditions in the coordinated market economies (ie Germany and the Scandinavian countries) than in liberal market economies (eg Britain).
3. Later versions of production theory would imply that there would be a greater gap between the position of the low-skilled and the core workforce in the coordinated market economies. The low skilled could be expected to be largely similar between countries.
4. Employment regime theory would lead to the expectation that the low skilled would have better conditions both absolutely and relatively in the 'inclusive' market regimes of the Scandinavian countries than in either the 'dualist' (eg. German) or 'liberal' (eg. British) regimes.
5. Societal theory would predict substantial variations between countries, but these are seen as reflecting the individual historical and institutional paths of specific countries rather than structural characteristics shared between groups of countries.

The next section of the paper presents the data that will be will be used in addressing these issues and explains the choice of countries for the analysis. It then compares the size and composition of the low-skilled in those countries. Section 3 then examines the relative earnings of the low skilled, taking as a measure the proportion falling below the low-pay threshold of two-thirds of the median wage. Section 4 turns to assess training provision for the low skilled. Finally Section 5 focuses on the insecurity of low-skilled positions.

2. Country Selection, Data and the Characteristics of the Low Skilled

Countries

We focus on seven countries that represent 'critical cases' in terms of theories of capitalist diversity and for which we have acceptably comparable data. There is much commonality in the key cases cited by the different perspectives. Production regime theory has taken as exemplars the Scandinavian countries, Germany, and the UK. The welfare/employment regime literature also gives a central place to these countries. The principal difference is that whereas the production regime literature argues for a close affinity between the Scandinavian countries and Germany (as examples of a coordinated market regime), they are viewed as having quite distinct employment and welfare regimes. Austria, with its strong vocational

training system and relatively high levels of coordination between social partners, also fits most of the criteria for a coordinated market economy, while Spain has been described as a classic example of dualism due to its exceptionally high proportion of temporary employees.

Data

It has been difficult to examine the employment conditions of the low skilled in the past due to the lack of comparative data with sample sizes sufficient for analyzing sub-categories of employee. The position has changed in recent years with the release by Eurostat of two major data sets: the European Union Labour Force Survey (EU-LFS) and European Survey of Income and Living Conditions (EU-SILC).

The EU-LFS is a quarterly household survey, with large representative samples for all countries and using the same concepts and definitions following ILO guidelines. It is an important source of information in country comparisons in employment, unemployment and inactivity. The EU-LFS has been conducting annual ad hoc modules since 1999, each with a particular focus. In this paper we use the Lifelong Learning module which was collected in 2003. The module data has a detailed record of training activities that the respondents had been involved in the last 12 months. Our sample includes those who are in the 15-65 age range, whose professional status is employee, excluding the armed forces and agricultural and fishery workers. We have 339,378 individuals in the sample, with 153,600 respondents from Germany as the biggest group and 10,724 respondents from Sweden as the smallest group.

Since the EU-LFS does not contain pay data, for the analysis of pay, we turn to EU-SILC. EU-SILC is expected to become the reference source of statistics on income and social exclusion in the European Union. Currently, three waves are available from 2003 to 2005. EU-SILC covers all the EU7 although the 2003 wave does not include any data for Germany and the UK. The total sample size for the seven countries for the three waves is 229,697, with the largest average sample size in each wave being in Germany with 20,857 individuals and the smallest average sample size each wave being in Denmark with 6,779 individuals.

Characteristics of the Low Skilled

Our focus on the low skilled is a focus on the characteristics of jobs rather than of individual competencies. We use the International Standard Classification of Occupations (ISCO-88) to distinguish occupational groups. The category of the low skilled is operationalized in terms of the ISCO category of ‘Elementary occupations’. Elementary occupations are taken as those that require ISCED Level 1 which corresponds to primary education, whether they are blue collar or white collar.

A first point to note is that there are substantial differences between countries in the size of the low skilled workforce. Table 1 gives the distribution of occupational classes of all non-agricultural employees. Spain has the largest share of low-skilled with 18.3%, while only 6% of the Swedish employees fall into the low-skilled category. But there appears to be little systematic difference by regime category. For instance, Denmark, Finland and the UK have very similar proportions of employees in elementary occupations.

As can be seen in Table 2, there is also considerable country variation in the composition of employees in elementary occupations in terms of age, part-time work, industrial sector, gender, and education. We use a three-category age group: 15-30 years, 31-50 years and 51-65 years. Arguably the implications of low skilled work will be less critical where it affects primarily younger people, if these can then move to better jobs later in their careers. In practice, there is a substantial spread across age groups in all countries. In Finland and Spain, however, an evidently larger share of the low-skilled fall into the 15-30 age group, with 47.2% and 41.3% respectively. Austria and Germany, on the other hand, have smaller proportions of the low-skilled in the youngest age group, and the largest proportion is in the 31-50 years age group.

There are also differences in the sex composition of elementary occupations, which in turn are partly linked to the prevalence of part-time work. In Austria, Germany, Spain, Finland and Sweden a clear majority of low skilled employees are women, while in the UK males are in a small majority. The incidence of part-time employment is particularly high in Germany (46.3%), Denmark (42.7%) and Sweden (41.2%), whereas in Spain only around one fifth of the low-skilled are contracted in part-time jobs. This is partly due to the low prevalence of part-time employment in Spain in general.

To compare the sector distribution of the low-skilled, we use a modified version of NACE European Classification of Economic Activities. Employees are grouped into three categories[1]: Industry, Retail and Hotels[2], and Other Services[3]. Germany and Spain contrast strongly with Sweden in sector distribution. The share of the low-skilled in industry in Germany and Spain (31.2% % and 30.2%) respectively is more than twice that of Sweden. Sweden not only has a very small share of the low-skilled in industrial activities, but also has the highest percentages in service jobs (82.2%).

Finally, we look at the incidence of having a low level of educational attainment among the low-skilled using the ISCED 1997 Classification, where we define low educational attainment as ISCED Level 2 or lower : completing no higher than lower secondary education or second stage of basic education[4]. The UK has the smallest proportion with low-education (36.8%), followed by Germany (43.5%) and Sweden (44.4%). On the other hand, in Spain every four out of five low-skilled has a low level of educational attainment, and the proportion of low-skilled employees who completed secondary education or less are 78.9% and 77.9% respectively.

Overall it is clear that the individual attributes of the low skilled vary considerably between countries and this clearly needs to be taken into account in trying to understand any contrasts between countries in their employment conditions. But these differences in individual

1 We exclude employees who work in agriculture and fishery from the analysis.

2 This category includes following economic activities: Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; and Hotel and restaurants.

3 This category includes following economic activities: Transport, storage and communications; Financial intermediation; Real estate, renting and business activities, consulting; Public administration and defence, compulsory social security; Education; Health and social work; Other community, social and personal service activities; Activities of households; and Extra-territorial organizations and bodies.

4 We combine ISCED 0, ISCED 1 and ISCED 2 categories to analyse the incidence of low-education. ISCED 0 refers to Pre-primary Education, ISCED 2 refers to Primary Education of First Stage of Basic Education, and ISCED 2 refers to Lower Secondary Education or Second Stage of Basic Education.

characteristics seem to cross-cut, rather than reflect, any of the main 'regime' groupings of countries.

3. Pay

Pay is a key factor affecting the position of the low-skilled in the labour market as it determines the ability to accumulate resources in a way that can provide some degree of protection in times of labour market difficulty. In this paper, we focus on the *incidence* of low-pay which captures the relative *vulnerability* of the low-skilled with respect to employment conditions, rather than returns to particular individual and job characteristics. As such, simply examining class differentials in pay would not be that informative. Furthermore, examining average wages or percentile positions by class (or indeed any other grouping) can be problematic in drawing firm conclusions when there is a high degree of within-class dispersion.

Given these factors, our measure of low-pay is threshold-based. Specifically, we define low-pay as two-thirds of the year and country specific median wage. This has become the standard definition of low-pay in the literature and is now the adopted definition of the European Commission and the OECD (Lucifora and Salverda 2009). This measure of low-pay has the added advantage of being relative, depicting the relative position of individuals and groups in the labour market, irrespective of their household circumstances. In defining our low-pay threshold, we use gross hourly pay. We focus on gross pay for now although it would be informative to examine the incidence of net pay for the low-skilled across countries. We focus on hourly pay as it allows the inclusion of part-time workers – which is important in examining the incidence of low-pay, since part-time work and low-pay seem to be associated. Furthermore, it separates the choice of hours from levels of pay and thus allows a comparison across workers.

Constructing the low pay variable

Since the EU-LFS does not contain pay data, we turn to the Survey of Income and Living Conditions (EU-SILC). EU-SILC is expected to become the reference source of statistics on income and social exclusion in the European Union. Currently, three waves are available from 2003 to 2005. EU-SILC covers all of the countries in focus, although the 2003 wave does not include data for Germany and the UK.

Hourly pay is constructed from information in the survey about gross earnings received over specific income periods, since this is the only information about earnings that is provided in a comparable way for all of the countries. The formula we use is hourly pay = (gross earnings from income period) / (usual hours per week * 4.3 * months in employment during income period).

This differs from more conventional measures based on gross monthly earnings. The estimate takes into account a longer time period, which can be an advantage if income fluctuates heavily across months as a result of seasonal factors. However, it may also be subject to greater measurement error for instance if there were marked changes in the individual's job over the period. It is clear that our measure embraces the great majority of those defined as low paid on the basis of the conventional measure (depending on the country between 84% and 88% of those classified as low paid on the conventional measure), but extends the

category of the low paid to a somewhat wider group, raising the proportion of the low paid in Austria and Spain by some 2 percentage points in comparison to the shorter term measure.

Low Skill and Low Pay

The last column of Table 3 presents the average incidence of low-pay across the EU7 in the period 2003 to 2006. Averaging across several years reduces the impact of year-on-year fluctuations on findings. Low-pay is, as predicted, relatively high in the UK. However, consistent with other recent findings, the incidence of low-pay is highest of all in Germany, with one-in-four workers being low-paid and more than half of the low-skilled being low-paid. Denmark has the lowest incidence of low-pay amongst the low-skilled with one in four being low-paid. Sweden and Finland, too, have relatively low overall incidences and amongst the low-skilled.

Generally, countries with a higher incidence of overall low pay have a higher incidence of low-pay amongst the low-skilled. The incidence of low-pay is, more or less twice as large for the non-skilled as the overall incidence of low-pay in every country. As we would expect, low-pay is least common in the white-collar occupations (the first three occupational classes in Table 3) compared to the blue-collar classes (the last three occupational classes in Table 3). The low-skilled have the highest concentration of low-pay out of all the occupational classes in almost every country, with the exceptions of Denmark and the UK, where service and sales workers have the highest incidence of low-pay.

Table 4 presents the odds of the low-skilled being low-paid across countries from two logistic regression models. In the first model, a dummy variable, taking the form of 1 if the respondent is low-paid according to our definition, and 0 otherwise, is regressed on a set of country dummies (with the UK as the reference category). In the second model, other potential confounding factors on the odds of the low-skilled being low-paid are included to net out their effect on country differences. These include age, sex, part-time work, industrial sector, whether or not the individual had a low level of education and their marital status.

This confirms that even when differences in individual characteristics are taken into account the likelihood of the low-skilled being low-paid is greater than the likelihood in the UK in only one country, Germany. Once controls are introduced, in the case of Germany, the odds ratio increases relative to the UK (although at a lower level of significance). In the rest of the countries, the odds of the low-skilled being low-paid are smaller than the odds for the low-skilled in the UK. Introducing the controls further accentuates country differences relative to the UK with the exception of Denmark, where the odds of being low-paid increases slightly, suggesting some of the country difference with the UK is due to compositional factors.

The UK and Germany then stand out in terms of the pay vulnerability of the low skilled both in comparison to the Scandinavian countries and in comparison to Spain.

4. Training

In economies where there is an uneven distribution of skills, work-related training plays a crucial role in stemming the wage inequality that might rise due to the skills differentials in the labour market by equipping those who lack required skills. Particularly employer-

provided training has been found to increase employees' real wages, and increases the work prospects for individuals with lower levels of formal education. Receiving work-related training is particularly important for the low skilled group, since it is largely composed of employees who have low levels of formal educational attainment and who are therefore especially likely to face difficult labour market prospects in the absence of skill development.

Firstly we look at the incidence of work-related training among the occupational classes across countries. The Lifelong Learning Module asks respondents whether they received any training in the last 12 months, and if so, whether it was work-related or not. All training episodes during this period are recorded. The training incidence variable that we use is a binary one which takes the value one if the respondent has received any work-related training during the last 12 months; and zero if there has been no work-related training. Second, we look at the duration of this training to capture the intensity of the work-related training. The duration variable is the sum of the overall number of hours that the respondent spent on work-related training(s) in the last 12 months. It combines multiple episodes of training, if the employee has been involved in more than one training activity.

It should be noted that, the module does not directly distinguish employer-provided training. For some countries there is information about whether the training took place in work-hours, and if so how many hours it involved, which can be used as a proxy for employer-provided training on the assumption that training received in work hours would be provided by the employer. However, we do not have this information for all countries and employer-funded training might also take place outside working hours. Therefore, we use work-related training in general, rather than training in work hours. However, we restrict the sample by excluding those who have been apprentices or students in the last 12 months and those who were unemployed a year prior to the survey. By doing so, we are aiming at keeping apart training related to unemployment or training received as an apprentice.

Table 5 summarizes the frequency and the duration of work-related training across occupational classes. The upper row for every country is the percentage of all employees within an occupational class who received work-related training in the last 12 months. Except for Sweden, the low-skilled have the lowest incidence rates of training, with 6.3% on average, whereas the proportion rises to 34.0% for the Legislators and Professionals. The Scandinavian countries have the highest incidence of training. In these countries nearly one in every four low-skilled received work-related training, while in Germany and Spain only a marginal proportion of the low-skilled received training.

The second row for each country gives the mean of duration of the training received in the last 12 months[5]. Spain and Germany have the highest mean duration of work-related training among the low-skilled. On average a training-recipient low-skilled in Germany receives 130 hours of training, whereas in Spain he or she receives 109.1 hours of training. What is striking is that these are the two countries that have the lowest share of low-skilled with training, which suggests that work-related training is limited to a very small group which enjoys long periods of training. The insider-outsider difference in these two countries is very marked.

[5] Means calculated for those who received training only. It does not refer to average training per employee within an occupational class, rather it shows the average duration of training of recipients.

Table 6 presents the results for regression analyses of country differences in the incidence and duration of work-related training among the low-skilled, where the UK is the reference category. As can be seen in Model 1, the odds for the low-skilled to receive work-related training are lower in Austria, Germany and Spain relative to the UK, whereas they are higher in the Scandinavian countries. Adding the control variables for age, sex, part-time work, industrial sector and education (model 2), does not change the direction and significance of the odds. Age group is not a significant predictor of whether or not a person had work-related training. Part timers have lower odds of receiving training compared to full-timers. Employees in Retail and Hotels do not have significantly different odds to those in industry, whereas employees working in other services are more likely to receive training than those in the industrial sector. Female employees and those with low-levels of educational attainment have lower odds relative to male employees and those who completed more than secondary level education, respectively.

The right-hand side of Table 6 shows the coefficients from OLS regressions of country differences in the number of hours that the low-skilled spent on work-related training among the low-skilled. The models are restricted to those who received training. Model 3 shows that those who received training in Austria, Germany, Denmark and Spain had significantly higher numbers of training hours compared to those in receipt of training in the UK. The coefficients are particularly large for Germany and Spain - the two countries with the greatest numbers of work-related training hours in low-skilled class. Model 4 controls for age, part-time full-time distinction, sector, gender and educational attainment. After controlling these variables, the same countries have significantly higher training hours than the UK, yet the coefficients are much smaller with the controls. This suggests that compositional factors in terms of the types of individuals who receive training account for part of the country differences in training durations. When we look at the other predictors, the only significant variable is age. The training duration for those aged between 31 and 50 is on average 18 hours less than for the 15-30 age group, and it is 23 hours less for the 51-65 age group.

Overall, the evidence shows that the Scandinavian countries stand out clearly in terms of the opportunities they give to the low-skilled for work-related training. Within these countries, however, there is considerable diversity in terms of the typical duration of training experiences. Moreover, the longest training durations of all are to be found in those countries – Germany and Spain – that confined training opportunities to a very small sector of the workforce.

5. Insecurity

While job insecurity can refer to a number of different dimensions of people's work experience, our concern here is with the risk of loss of employment. We use two indicators to gauge insecurity: the incidence of temporary work contracts and the incidence of unemployment in the past. Temporary work is known to be associated with higher subsequent risks of unemployment and inherently provides less future predictability as a result of the fixed term nature of the contract. Past unemployment has also been shown to be a predictor of future spells of unemployment and is likely to lead to increased vulnerability both because of the restrictions it involves for skill development over time at work and for its potential reputational effect when people are looking for new jobs.

Table 7 shows the incidence of working under temporary work contracts compared to permanent work contracts among occupational classes. There are very marked differences between countries both in the absolute levels of temporary work and in its distribution between classes. When we look at the country variation in absolute levels of temporary work among the low skilled, we see that almost half of elementary employees in Spain work with a temporary contact. This is commonly attributed to the very strong employment protection regulations in this country. On the other hand, Austria, the United Kingdom and Germany have relatively low rates of temporary work among the low-skilled. The Scandinavian countries form an intermediary group with the temporary workforce ranging from 16% of the low-skilled in Denmark to 27% in Finland.

In only three of the seven countries (Denmark, Spain and Finland) are the low skilled the category with the highest proportion of temporary workers. In Sweden and the UK, temporary work is more common among service and sales workers. In Austria and Germany both service and sales and craft occupations have higher proportions (and indeed in Germany this is also the case for technical and clerical employees). Comparing with the highest class grouping (legislators and professionals), those in elementary occupations have considerably higher probabilities of being in temporary work in Spain and the three Scandinavian countries. But there is relatively little class disadvantage in this respect in the UK and elementary workers in Austria and Germany are even less likely to be in temporary work than those in the highest class positions. The class pattern for temporary work then fits rather imperfectly the view that those in the lowest skill position will be inherently more insecure than other sectors of the workforce.

Table 9 (Models 1 and 2) provides the results from logistic regression analysis on the country differences in odds of working with a temporary contract among the low-skilled, where United Kingdom is the reference category. As can be seen in Model 1, in all countries except Austria the odds for working with a temporary contract are higher than for the UK. The relative odds for a low-skilled employee in Spain to work with temporary contract are 13.3 times higher than for a low-skilled employee in the UK, while they are 5.4 times higher in Finland.

Model 2 examines the country differences after controlling for age, part-time work, sector, gender and education. Older age groups have lower odds of being employed in temporary jobs than the 15-30 years age group. Part timers are more likely to hold temporary work contract with a factor change of 1.7. When we look at the sector of economic activity, Retail and Hotel, and Other Services have significantly lower odds of temporary work relative to manufacturing industry. Temporary work is slightly less common among female low-skilled employees. However, it can be seen that when these diverse compositional factors are taken into account, the initial country pattern remains the same: all countries except Austria still have significantly higher odds of temporary work than the UK. It is clear that the expectation of several of the theoretical scenarios that insecurity would be particularly high among the non-skilled in the UK is not borne out in the case of temporary work.

Arguably this may be because it is relatively easy in the UK to hire and fire without resort to temporary contracts, due to the relatively weak employment regulation that prevails. If so this should be evident in prior experiences of unemployment. Table 8 shows the share of employees who had been unemployed twelve months previously. Confirming the expectations of class theory, the low-skilled class had higher levels of unemployment experience in all countries except Sweden. In Sweden the most frequent experiences of

unemployment were found among clerical and machine operator jobs. Taking the ratio between elementary occupations and those in the highest occupational groups (legislators and professionals), it is notable that relative disadvantage was particularly high in Finland and the UK (where elementary employees were 4.5 and 4.2 times more likely to have experienced unemployment), followed by Germany and Spain (with ratios of 3.82 and 3.43). Class differences were lowest in Denmark and Sweden (where the ratios were respectively 2.32 and 2.85).

However, in absolute terms the job security of the low-skilled was relatively high in the UK. Only 6% of the UK low skilled had been unemployed the previous year, less than half the proportion in Germany, Denmark and Finland and a third of the proportion in Spain (where 19% had been unemployed). This pattern is confirmed in the regression analyses of Table 9 (Models 3 and 4).

Model 3 represents the country differences of having experienced unemployment among low-skilled. Unemployment is less likely in Austria relative to the UK, whereas low-skilled in Germany, Denmark, Spain, and Finland are more likely to be unemployed a year before. Model 4 takes into account the potential effects of differences in individual characteristics. Unemployment experience is less likely for the older age groups relative to 15-30. The odds for part-time employees to have been unemployed are slightly higher than full-time workers. Female employees have lower odds of prior unemployment than male employees. Finally the odds of unemployment for those with lower educational attainment are lower than those with higher levels of education. After controlling for age, part-time work, sector, gender and education (Model 4), the country effect for Austria disappears, decreases slightly for Germany, Denmark, and, Finland, and increases for Spain. But the relatively favourable position of the low skilled in the UK compared to their equivalents in most of the other comparator countries still stands out clearly.

Conclusions

The paper has focused on the relative vulnerability of the low skilled in seven countries that represent critical cases with respect to theories of the effects of institutional differences on employment experience. It is concerned very specifically with the resources provided by the nature of the jobs themselves, as distinct from the wider welfare environment.

It starts from the assumption that such vulnerability will be greater the lower the relative pay, the poorer the training opportunities and the higher the insecurity of the jobs. It contrasts the expectation from class theory of broad similarity across countries with neo-institutional arguments that would lead to the expectation of significant country differences in the nature of low skilled work. Several of these arguments pointed to the likelihood that such vulnerability would be the greatest in the UK, because of its distinctive liberal market regime and weak employment regulation. Others pointed to the key difference between the Scandinavian regimes on the one hand and the UK and continental countries (with their dualist employment structures) on the other.

The expectations of class theory fit the data well for most of the dimensions in all of the countries. Low skilled work is associated with lower pay, poorer training opportunities and greater insecurity at least in terms of recent unemployment experience. On each dimension, however, there are significant differences between countries in the extent of disadvantage.

But the three different dimensions of vulnerability do not appear to be closely inter-related in the way that would be expected from the predictions of regime theories.

The clearest example of a regime effect is with respect to training, where the Scandinavian countries, consistent with the expectation of their having more inclusive employment regimes, offered substantially more generous provision than any of the other countries. Denmark also stands out with respect to the restricted prevalence of low pay, but Finland and Sweden are less distinctive in this respect. The Scandinavian societies were also not particularly protective with respect to job security. It must be remembered that this is with respect to employment in the current organization. It has been well documented that these countries provide much higher levels of support for those losing work not only with respect to welfare support but also for acquiring a new job. Subjective feelings of job security may then be considerably higher than would be anticipated in terms of immediate job vulnerability.

In several scenarios the expectation was that the UK would provide particularly poor employment conditions for the low skilled. This was certainly the case with respect to high levels of low pay (although the UK was not the worst case in this respect). But in terms of training provision the UK was not distinctive and it appeared to provide relatively high levels of job security in terms both of the low incidence of temporary work and of unemployment experience. It must be noted that the data refer to a period in which there had been sustained economic growth and declining unemployment. While at the time this was regarded by some as inherent advantage of the neo-liberal institutional system with its emphasis on flexible employment practices, it is too early to judge the corresponding costs in a period of economic downturn.

The two countries that emerge as providing the lowest level of protection of the low skilled are the ‘dualist’ employment regimes of Germany and Spain. In Germany the low skilled suffered from an exceptionally high level of low pay and from very limited training opportunities. As with the Scandinavian countries, job insecurity was intermediate but in the German case this was not associated with a strong welfare and activation safety net at societal level. In Spain, very low training provision was associated with the highest level of job insecurity of any of the countries – whether one takes the prevalence of temporary work or recent unemployment experience.

The disadvantage of the low skilled appears then to be very general across the diverse countries examined. This confirms the essential features of the class structuring of the employment relationship. There are significant differences between countries in the extent of disadvantage of the low skilled but there is no evidence of a systematic pattern of regime difference that leads to differences across each of the dimensions of vulnerability examined. However, albeit in different ways, the low skilled would appear to be most vulnerable in countries where the regulative system encourages a relatively sharp differentiation between a core and a peripheral workforce.

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APPENDIX

Table 1. Distribution of occupational classes

	Legislators and Professionals	Technicians and Associate Proff.	Clerks	Service Workers and Sales	Craft Related Workers	Plant and Machine Operators	Elementary Occupations	TOTAL
AT	2,714	2,866	3,104	3,240	3,859	1,740	**1,970**	19,493
%	13.9	14.7	15.9	16.6	19.8	8.9	**10.1**	100.0
DE	23,907	33,534	22,885	20,254	26,791	12,319	**13,910**	153,600
%	15.6	21.8	14.9	13.2	17.4	8.0	**9.1**	100.0
DK	1,563	1,730	912	1,558	887	662	**1,059**	8,371
%	18.7	20.7	10.9	18.6	10.6	7.9	**12.7**	100.0
ES	9,170	7,085	6,990	12,127	11,534	6,876	**12,028**	65,810
%	13.9	10.8	10.6	18.4	17.5	10.5	**18.3**	100.0
FI	4,288	3,248	1,949	3,741	2,785	1,941	**2,668**	20,620
%	20.8	15.8	9.5	18.1	13.5	9.4	**12.9**	100.0
SE	2,282	2,132	1,212	2,214	1,057	1,180	**647**	10,724
%	21.3	19.9	11.3	20.7	9.9	11.0	**6.0**	100.0
UK	15,092	6,897	9,943	11,859	4,577	4,808	**7,584**	60,760
%	24.8	11.4	16.4	19.5	7.5	7.9	**12.5**	100.0
Total	59,016	57,492	46,995	54,993	51,490	29,526	39,866	339,378
%	18.4	16.4	12.8	17.9	13.8	9.1	11.7	100.0

Source: Authors' calculations with EU-LFS 2003 Lifelong Learning Module.

Note: The Occupational classifications are based on ISCO-88. The Armed forces and skilled agricultural and fishery workers categories are excluded from the analysis. Occupational classes I and II are combined. Only employees are included. Those working in agriculture sector are dropped out.

AT: Austria, DE: Germany, DK: Denmark, ES: Spain, FI: Finland, SE: Sweden, UK: United Kingdom

Table 2. Composition of the Non-skilled

	Austria	Germany	Denmark	Spain	Finland	Sweden	UK
AGE							
15-30	21.6	25.0	35.8	41.3	47.2	36.2	37.1
31-50	50.7	40.9	29.1	36.1	24.3	31.8	31.0
51-65	27.8	34.2	35.1	22.6	28.6	32.0	32.0
PART TIMERS	38.9	46.3	42.7	21.3	26.4	41.2	38.6
SECTOR							
Industry	24.1	31.2	23.6	30.2	20.5	13.8	23.2
Retail and Hotels	19.2	14.5	19.5	17.9	16.5	17.8	24.1
Other Services	56.7	54.3	56.9	51.9	63.0	68.4	52.7
WOMEN	62.5	56.0	51.1	55.7	59.5	57.8	46.4
LOW EDUCATED	49.6	43.5	52.5	78.9	47.3	44.4	36.8

Source: Authors' calculations with EU-LFS 2003 Lifelong Learning Module.
Note: Only employees are included. Those working in agriculture sector are dropped out.
Low educated category includes ISCED 0, ISCED 1 and ISCED 2.

Table 3. Incidence of low-pay by occupational class, 2003-2005 (%, headcount 3-year average)

	Legislators and Professionals	Technicians and Associate Proff.	Clerks	Service Workers and Sales	Craft Related Workers	Plant and Machine Operators	Elementary Occupations	All Occupations
AT	3.1	5.4	9.4	26.2	15.3	8.6	31.9	17.9
DE	7.9	18.8	26.4	50.1	34.1	30.6	54.2	24.1
DK	5.5	8.1	12.5	29.3	16.2	15.4	23.0	12.3
ES	3.6	12.5	14.3	28.4	19.6	15.4	31.9	19.2
FI	3.7	7.9	10.0	23.7	15.3	15.0	30.1	13.7
SE	11.2	12.9	19.0	25.9	18.0	15.8	30.8	17.0
UK	6.7	8.6	18.5	46.7	17.0	24.8	43.0	21.3

Source: Author's calculations from EU-SILC Personal Register 2003-2005, 3-year averages (2-year averages in the cases of Germany and UK as no data is available for 2003; 1-year average in the case of Spain for 2005).

Notes: Data has been weighted. Based on full-time and part-time workers. Countries' hourly pays were constructed from "income period. "Low-pay" is defined as 2/3 median wage. Occupational categories are based on the ISCO-88 classification. Armed Forces and Skilled Agricultural Workers are excluded. Occupational classes I and II have been combined.

AT: Austria, DE: Germany, DK: Denmark, ES: Spain, FI: Finland, SE: Sweden, UK: United Kingdom

Table 4. Country difference in incidence of low-pay amongst the non-skilled, 2003-2005

	Model 1		Model 2	
	Odds Ratios	Std. Err.	Odds Ratios	Std. Err.
COUNTRY (Ref. Cat. UK)				
AT	0.542***	-0.042	0.468***	-0.054
DE	1.270**	-0.113	1.352*	-0.168
DK	0.321***	-0.031	0.408***	-0.069
ES	0.513***	-0.032	0.315***	-0.034
FI	0.438***	-0.035	0.312***	-0.049
SE	0.502***	-0.052	0.414***	-0.073
AGE (Ref. Cat. 15-30)				
31-50			0.616***	-0.037
51-65			0.527***	-0.038
PART-TIMERS			1.294***	-0.074
SECTOR (Ref. Cat. Agriculture)				
Industry			0.418***	-0.042
Services I			0.700**	-0.074
Services II			0.483***	-0.045
FEMALES			0.518**	-0.026
LOW-EDUCATION			0.745***	-0.038
MARITAL STATUS (Ref. Cat. Non-married)			0.772***	-0.036
WORKPLACE SIZE (Ref. Cat. 10 or less)				
11-19			0.662***	-0.05
20-49			0.605***	-0.045
50+			0.464***	-0.034
CONTRACT (Ref. Cat. Permanent)			1.874***	-0.101
SUPERIVISORY (Ref. Cat. Nonsupervisory)			0.464***	-0.042
CONSTANT	0.898 (n.s.)	-0.057	7.763**	-1.612
R^2	0.0258		0.1211	
Number of cases	29632		23854	

Source: Author's calculations from EU-SILC Personal Register pooled 2003-2005 waves, with year dummies (not reported).
Notes: Odds ratios reported. Data has been weighted. Bold countries' hourly pay was constructed from "income period". "Low-pay" is defined as 2/3 median wage. *** p<0.001; **; p<0.01; p<0.05; ns not significant.

Table 5. Incidence of job-related training and duration of the training in hours by occupational class (%)

		Legislators and Professionals	Technicians and Associate Proff.	Clerks	Service Workers and Sales	Craft Related Workers	Plant and Machine Operators	Elementary Occupations
AT	%	44.3	36.0	28.6	17.2	16.1	12.3	7.0
	Mean hours	53.4	57.3	49.2	49.2	55.5	51.5	53.3
DE	%	26.2	17.8	11.2	8.9	6.9	4.9	2.4
	Mean hours	58.1	66.7	76.0	75.2	92.4	63.9	130.0
DK	%	57.8	52.0	38.8	36.6	33.2	30.9	24.8
	Mean hours	55.2	55.2	55.7	66.6	65.9	97.0	90.4
ES	%	21.6	14.1	11.4	7.4	5.5	5.4	3.1
	Mean hours	88.9	88.7	75.0	106.0	98.5	89.8	109.1
FI	%	61.6	55.0	39.8	39.9	24.9	22.3	23.2
	Mean hours	48.1	42.4	39.2	36.3	55.9	34.9	43.4
SE	%	71.3	61.5	39.8	43.3	30.3	25.6	28.1
	Mean hours	40.6	40.5	29.7	29.8	30.1	36.4	27.4
UK	%	48.5	47.2	28.9	27.8	24.5	16.2	13.6
	Mean hours	22.6	26.2	23.5	29.9	29.3	27.1	25.1
Total	%	36.7	26.3	18.6	16.8	10.8	9.8	7.0
	Mean hours	46.6	53.4	48.8	50.9	66.0	52.2	59.2

Source: Authors' calculations with EU-LFS 2003 Lifelong Learning Module.
Note: The Occupational classifications are based on ISCO-88. The Armed forces and skilled agricultural and fishery workers categories are excluded from the analysis. Occupational classes I and II are combined. The sample excludes respondents who have either been apprentice/student in the last 12 months or those who were unemployed one year prior to the survey.
AT: Austria, DE: Germany, DK: Denmark, ES: Spain, FI: Finland, SE: Sweden, UK: United Kingdom

Table 6. Country differences in incidence and duration of work-related training among the non-skilled

	Incidence of work-related training				Duration of work-related training (in hours)			
	Model 1		Model 2		Model 3		Model 4	
	Odd Ratios	St. Err.	Odd Ratios	St. Err.	Coef.	St. Err.	Coef.	St. Err.
COUNTRY (Ref. Cat. UK)								
Austria	0.478***	(0.047)	0.43***	(0.044)	28.230*	(14.122)	30.779**	(10.557)
Germany	0.156***	(0.011)	0.142***	(0.012)	104.918***	(11.393)	67.896***	(9.321)
Denmark	2.089***	(0.196)	1.978***	(0.217)	65.338***	(12.961)	44.819***	(10.624)
Spain	0.202***	(0.014)	0.23***	(0.020)	84.012***	(10.470)	57.002***	(8.965)
Finland	1.916***	(0.137)	2.009***	(0.166)	18.324 (n.s.)	(9.668)	4.216 (n.s.)	(8.183)
Sweden	2.480***	(0.278)	2.273***	(0.261)	2.331 (n.s.)	(14.505)	9.862 (n.s.)	(11.036)
AGE (Ref. Cat. 15-30)								
31-50			1.052 (n.s.)	(0.068)			-18.992**	(6.550)
51-65			0.908 (n.s.)	(0.065)			-24.450***	(7.420)
PARTTIMERS			0.557***	(0.040)			6.022 (n.s.)	(7.586)
SECTOR (Ref.Cat. Industry)								
Retail and Hotels			1.033 (n.s.)	(0.088)			-4.412 (n.s.)	(8.708)
Other Service			1.193**	(0.078)			-6.395 (n.s.)	(6.600)
FEMALES			0.820*	(0.050)			-0.289 (n.s.)	(6.263)
LOW-EDUCATION			0.509***	(0.030)			-1.850 (n.s.)	(6.081)
CONSTANT					25.060***	5.537	40.141***	(7.473)
R squared (Pseudo/Adjusted)	0.121		0.162		0.062		0.059	
Number of cases	30259		22583		1991		1693	

Data: EU-LFS 2003 Lifelong Learning Module Note: Model 1 and Model 2 are Logistic Regression Estimations, Model 3 and Model 4 are Ordinary Least Square Estimations. ***: P<0.001, **: P<0.01, *: P<0.05, (n.s.): Not significant. Low educated category includes ISCED 0, ISCED 1 and ISCED 2.

Table 7. Incidence of temporary work contract among occupational classes (%)

	Legislators and Professionals	Technicians and Associate Proff.	Clerks	Service Workers and Sales	Craft Related Workers	Plant and Machine Operators	Elementary Occupations
AT	5.1	3.2	4.2	11.1	13.0	2.9	4.7
DE	10.7	11.7	10.5	13.9	14.9	6.8	9.2
DK	9.6	9.6	11.7	18.0	10.2	7.1	15.8
ES	21.6	20.5	23.9	31.6	38.1	25.2	47.1
FI	15.8	16.7	16.1	23.8	13.4	10.5	26.6
SE	10.0	7.3	16.0	23.5	9.0	10.1	21.6
UK	5.6	5.6	6.0	6.9	2.6	3.9	6.3
Total	11.2	10.7	12.6	18.4	14.4	9.5	18.7

Table 8. Incidence of experiencing unemployment among occupational classes (%)

	Legislators and Professionals	Technicians and Associate Proff.	Clerks	Service Workers and Sales	Craft Related Workers	Plant and Machine Operators	Elementary Occupations
AT	0.9	0.8	1.3	2.5	2.5	2.2	3.3
DE	3.3	4.3	5.3	7.3	9.9	9.4	12.6
DK	5.3	6.3	11.3	7.7	4.6	12.0	12.3
ES	5.4	7.9	11.6	14.8	9.9	8.3	18.5
FI	2.7	4.1	7.1	7.4	9.4	8.2	12.2
SE	1.3	1.4	4.0	2.4	3.1	3.9	3.7
UK	1.3	1.6	2.4	3.0	2.5	4.0	5.5
Total	2.9	3.8	6.2	6.4	6.0	6.8	9.7

Source: Author's calculations with EU-LFS 2003 Lifelong Learning Module.
Note: The Occupational classifications are based on ISCO-88. The Armed forces and skilled agricultural and fishery workers categories are excluded from the analysis. Occupational classes I and II are combined. Only employees are included. Those working in agriculture sector are dropped out. AT: Austria, DE: Germany, DK: Denmark, ES: Spain, FI: Finland, SE: Sweden, UK: United Kingdom

Table 9. Country differences in incidence of temporary work contract and unemployment experience among the non-skilled

	Incidence of temporary work contract				Experiencing unemployment			
	Model 1		Model 2		Model 3		Model 4	
	Odd ratios	St. Err.	Odd ratios	St. Err.	Odd ratios	St. Err.	Odd ratios	St. Err.
COUNTRY (Ref. Cat. UK)								
Austria	0.734**	(0.088)	0.885 (n.s.)	(0.109)	0.587***	(0.080)	1.111 (n.s.)	(0.168)
Germany	1.525***	(0.099)	1.686***	(0.118)	2.481***	(0.146)	1.916***	(0.181)
Denmark	2.807***	(0.324)	2.911***	(0.353)	2.402***	(0.259)	1.965***	(0.347)
Spain	13.321***	(0.787)	15.304***	(1.035)	3.900***	(0.224)	4.428***	(0.414)
Finland	5.441***	(0.425)	6.011***	(0.505)	2.389***	(0.189)	2.123***	(0.275)
Sweden	4.128***	(0.467)	4.653***	(0.564)	0.669 (n.s.)	(0.153)	0.649 (n.s.)	(0.214)
AGE (Ref. Cat.15-30)								
31-50			0.398***	(0.016)			0.627***	(0.034)
51-65			0.261***	(0.013)			0.427***	(0.030)
PARTTIMERS			1.517***	(0.064)			1.109 (n.s.)	(0.067)
SECTOR (Ref .Cat. Industry)								
Retail and Hotels			0.658***	(0.035)			0.938 (n.s.)	(0.070)
Other Service			0.660***	(0.028)			0.980 (n.s.)	(0.058)
FEMALES			0.825***	(0.033)			0.830***	(0.047)
LOW EDUCATION			0.984 (n.s.)	(0.038)			0.855**	(0.045)
R squared (Pseudo)	0.177		0.225		0.034		0.055	
Number of cases	28809		27437		38511		26599	

Data: EU-LFS 2003 Lifelong Learning Module
Note: All models are Logistic Regression Estimations. ***: P<0.001, **: P<0.01, *: P<0.05, (n.s.): Not significant
Low educated category includes ISCED 0, ISCED 1 and ISCED 2.