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Escaping the low-pay trap: do labour market entrants stand a chance?

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Abstract

This paper investigates the wage and employment perspectives of low-wage labour market entrants, using panel data from the UK, the Netherlands, and Germany. We apply a competing risks hazard model of transitions from low pay to higher pay, to unemployment or to inactivity. Low pay is found to be a rather transitory experience. However, a significant amount of transitions between low pay and non-employment is indicated. Exits from low-pay seem to be determined by firm-specific skills in the UK and the Netherlands, while by formal educational and vocational training qualifications in Germany.

Keywords: low pay, competing risks, hazard model, panel data.
JEL-code: J31, C33, C41.

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INTRODUCTION

Over the past decades, the issue of the transition from education to work has gained increasing attention in the economic and political debate. Rising youth unemployment rates[1] and low wage employment emerge as considerable threats for labour market entrants. Recent studies have investigated the consequences of labour market entry in flexible jobs (Gangl, 2001; de Grip and Wolbers, 2003; Scherer, 2004). Early research on the school-to-work transition scrutinized issues such as the labour force participation, the unemployment risk, the job and occupational mobility, as well as the job quality of young labour market entrants (see Hannan et al., 1996 for an overview of international comparative studies). Low pay is not limited to flexible jobs. Many permanent jobs, especially in low-skilled sectors, are low paid. In other cases, many employers offer their workers a low wage during the probation period. This wage can increase if the job match is proved efficient; but if the match is bad then the worker and the firm might separate. This points to the necessity of investigating wage dynamics after labour market entry.

Economic theory does not provide us explicit predictions for the entry level wages of young job starters. For lifetime earning profiles, it suggests that skills and abilities are the main determinants of earnings. Nevertheless, this might not be the case at the beginning of the working career. The transition from education to work coincides more often with the entry into a low paid job. Occasionally, even highly qualified young people start their

working career in such a job (OECD, 2003). The question that emerges is whether low pay at the beginning of the working career is a stepping stone or a trap that young workers cannot easily escape. The *stepping stone* hypothesis suggests that through a low paid job, young workers prove and improve their skills. This enables them to increase their earnings in the same or in a different job, in a short period of time. The *trap* hypothesis suggests that an unsuccessful entry in the labour market has a long-term scarring effect on the worker's career. In this hypothesis, a low-paid job at the beginning of the working career is seen as a negative signal for the worker's skills and productivity.

The aim of this paper is to answer the aforementioned question focusing on the transitions out of low-wage employment after entry into the labour market. We adopt a dynamic approach of this transition and investigate the exits out of low pay in a cross-country comparative framework. This cross-country dimension of the study allows us to investigate the wage prospects of labour market entrants under different institutional environments.[2] Three European countries with different institutions for the school-to-work transition, are included in our analysis: the UK, which has a liberal labour market as well as a relatively weak linkage between education and the labour market; Germany that has a highly stratified educational and occupational system and a highly regulated labour market; and the Netherlands, which takes an intermediate position (see Section 1).

Building upon recent studies that investigate the incidence and the persistence of low pay in several European countries, we analyze the exits out of low pay, not only to higher pay but also to unemployment and other states of non-employment. For this purpose,

we employ a discrete time hazard model with the above four competing risks. Contrary to most of the relevant studies that control only for observed characteristics, our model controls also for unobserved heterogeneity. Controlling for unobserved skills and motivation is important, as these are likely to account for differences in low-pay exit patterns of labour market entrants.

The rest of the paper is organized as follows. Section 1 discusses the findings of the relevant literature and elaborates on the hypotheses of our analysis. In Section 2 the empirical model is described. The data used for estimation are discussed in Section 3. Section 4 presents the results from the estimations. A number of conclusions are drawn in Section 5.

I. THEORETICAL BACKGROUND AND EXPECTATIONS

The interplay between the educational system and the labour market

The entry conditions of young people in the labour market vary considerably across countries. Young job starters face different risks for unemployment and for low wage employment in different countries (CEDEFOP, 2001). Existing labour market institutions are contended to account for these differences in the wage level of labour market entrants between the liberal labour markets of the US and the UK and the regulated markets of continental Europe (Freeman and Katz, 1995; Blau and Kahn, 1996). More specifically, Hannan et al. (1996) and de Grip and Wolbers (2003) suggest that the link between the education and the vocational training system, and the labour market has a key role in de-

termining the prospects of the low-skilled labour market entrants. In countries with both a highly stratified educational system and a high level of job classification in the labour market, job requirements are strongly linked to specific educational or vocational training qualifications (Marsden, 1990). Hence, general human capital is the most important determinant of earnings, and skills are transferable across employers. Furthermore, earnings progression is realized early in the working career. In such countries, a low pay episode is usually a temporary incident for the highly qualified job starters, but a trap for their low-skilled colleagues.

In contrast, in countries with a more universal educational system, less centralized vocational training and a low level of job classification in the labour market, firm-specific skills are the most important determinants of earnings. In such countries, the "internal labour markets" (Doeringer and Piore, 1971) dominate; employers seek to fill vacancies for unqualified jobs with workers from outside the firm, while vacancies for more qualified jobs are filled with workers from within the firm. Such firms rely heavily on "on the job training". This, however, does not mean that educational credentials are not relevant for the working career. On the contrary, employers use educational qualifications as a screening device for assigning tasks and functions to their employees (Thurow, 1975). As firm-specific skills are rewarded, and because it takes time to acquire such skills, earnings progression (of both high and low-qualified employees) is strongly related to tenure. Thus, in such countries, low-wage job starters that remain employed in a firm, will have more chances to escape low pay.

Three countries with very different labour markets characteristics are included in our analysis: the UK, Germany and the Netherlands. Although all three countries have highly standardized educational and training systems, they differ with respect to the nature of the interaction between the educational and training system on the one hand, and the labour market on the other. In their typology of school-to-work transitions, Hannan et al. (1996) suggest that the dual system in Germany offers a strong linkage between education and the labour market, while in the UK this linkage is weak but strongly responsive to market signals. According to the same study, the Netherlands is taking an intermediate position. We contend that these differences are likely to explain the different patterns of transitions from low pay in these countries.

In Germany, the educational system is highly oriented towards the labour market: educational certificates and especially vocational training qualifications are closely linked to employment. Many young people go through a period of apprenticeship for up to three years. Moreover, employers are directly involved in the provision and delivery of apprenticeships (Hannan et al., 1996). Approximately half of the apprenticeships end in regular jobs, as this form of employment is the main screening device of employers for recruitment (CPB, 1997). This is also in accordance with Winkelmann (1996), who suggests that apprenticeships develop skills which are transferable across jobs and employers, and that especially apprentices trained in large firms are more likely to experience a smooth transition to regular employment. Furthermore, the labour market is strongly regulated by collective bargaining, which covers more than 80% of German workers. Long-term cooper-

ative employment relationships are widespread in the German labour market. Therefore, the German employment system can be characterized as a typical insiders' labour market (Blossfeld, 2001; Kim and Kurz, 2001). In such a labour market, earnings progression of the qualified workers is more likely to take place early in the working career, shortly after concluding initial education or vocational training. Non-qualified workers, however, are expected to remain trapped in a low-pay status or even to move to unemployment. Thus, the duration and the exits from low pay are strongly dependent on education and especially on formal training (Gangl, 2001; Scherer, 2004).

The UK is characterized as a country where the "internal labour markets" dominate, and the link between the education and vocational training system with the labour market is weak (Gangl, 2001; Hannan et al., 1996). In the UK, market forces rather than statutory regulations are dominant in the labour market. This is achieved through an increased level of job mobility. Collective bargaining is less widespread and unionization rates are low. Minimum wage regulation was absent from 1993 until 1999, when a national minimum wage was introduced. Hence, the employment system of the UK is much more open than that of Germany; low pay is observed among all categories of employees and not just among labour market entrants. Compared to the German system, the UK educational system is more flexible and only weakly stratified. Apprenticeship is much less widespread in the UK and it holds a considerably lower status than in Germany (Brauns et al., 2000).[3] There are also more possibilities to move across vocational training and university education than in Germany (Kim and Kurz, 2001; Müller and Shavit, 1998). Therefore, the relationship

between formal vocational training and labour market outcomes is expected to be weaker in the UK than in Germany. Earnings progression is expected to be determined by general educational qualifications, but even more so by skills acquired on the job, as these can serve as a screening device for employers.

The Dutch labour market offers an interesting case which is situated between the highly regulated German dual system, and the liberal system of the UK (van der Velden and Lodder, 1995). It combines some institutional arrangements for the promotion of security that are dominant in Germany, with extensive flexibility in employment in terms of temporary contracts and flexible working hours (Wilthagen et al., 2004). Although the overall setting of the educational system resembles the German one, the link between education and employment is weaker than in Germany. This linkage is realized by the arrangement of the level and the content of the requirements for entering a certain occupation. There is an extensive range of occupational entries (approximately 200) with specified educational or training credentials as prerequisites (Hannan et al., 1996). Apprenticeship is less common in the Netherlands than in Germany and moreover, it is distributed across all age groups (CPB, 1997), while in Germany it is observed predominantly among young people.

Among the three countries of interest, the UK presents the highest percentage of low-paid employees (19.6%), which has been increasing since the early 1980's. In the UK low pay is particularly common for workers younger than 25, and for people working in services as well as in trade (OECD, 1996). There is also evidence of a strong persistence of low pay (Stewart and Swaffield, 1999; Dickens, 2000) as well as increased mobility between low

pay and unemployment in the UK (Stewart, forthcoming; Capellari and Jenkins, 2004). In the Netherlands, low pay is less prevalent than in the UK (11.6%) and remains fairly stable since the early 1980's. Low pay is more common among workers in the trade sector. In Germany, the percentage of low-paid employees (13.3%) lies somewhere between the Netherlands and the UK, and has slightly decreased since the late 1970's (OECD, 1996). Low pay is less frequent among workers older than 25 years of age and it is more common (but less than the UK) in the services and in trade. Persistence of low pay over a 5-year period is much lower than the UK (15.6% and 33.8% respectively, according to OECD, 1996).

Expectations

Summarizing, the outcome of the school-to-work transition is likely to be very different in the three countries under scrutiny. In the German labour market, workers with either higher education or apprenticeship qualifications are expected to experience fast transitions out of low pay. Low-educated youths, however, are expected to remain trapped in low pay, due to the "closed" structure of the labour market. In the UK, the educational level is expected to play a less crucial (but still important) role with respect to the exit from low pay. Because of its more liberal nature, the UK labour market is expected to reward skills that are relevant to the firm. Hence, the development of firm-specific human capital (through longer tenure or training) is likely to explain the transitions out of low pay, more than in is the case Germany. Exits from low pay to unemployment are also expected to be frequent (OECD, 1996; Dickens, 1997; Sloane and Theodossiou, 1998), and in fact

more frequent than in Germany, where the employer-employee bonds are stronger. The Netherlands is expected to take an intermediate position.

II. THE EMPIRICAL MODEL

Our aim is to study transitions out of low pay for labour market entrants. However, transitions out of low pay cannot be considered to be restricted to transitions within paid employment (e.g. from low to "higher" pay). Low-paid workers often become unemployed, start their own business or move to inactivity. Therefore, we consider low-pay duration in a competing risks framework with four destination states: remaining in low pay, moving to higher pay, unemployment or other states out of paid employment (including self-employment).[4] Since our data come from yearly observations, we apply a discrete time choice model for these four competing risks. After organizing our data in a person-period file (where the number of observations per individual equals the number of years at risk), we estimate this model with the use of a multinomial logit regression.[5]

Let P_m be the probability that individual i escapes the low-pay status (remaining in low pay is the reference group) to a status m after t years. Let X_{it} denote a vector of covariates for individual i after being at risk for t years. Covariates can be either time constant or time varying. The transition probability is specified by the following multinomial logit model:

$$P_m(x_{it}, t) = \frac{\exp\left(b_0^m + b_1^m \ln t + b_2^m X_{it}\right)}{1 + \sum_{m'=1}^{3} \exp(b_0^{m'} + b_1^{m'} \ln t + b_2^{m'} X_{it})} \tag{1}$$

where b_0, b_1, b_2 are vectors of coefficients to be estimated. Therefore, the likelihood contribution of an individual for whom no event has taken place until $T_i - 1$ is:

$$L_i = \left[\prod_{t=1}^{T_i-1} P_0(x_{it}, t)\right] \left[P_0(x_{iT_i}, T_i)\right]^{1-\sum_{m=1}^{3} \delta_{tim}} \left[\prod_{m=1}^{3} P_m(x_{iT_i}, T_i)\right]^{\delta_{tim}} \tag{2}$$

$$\text{where } \delta_{tim} = \begin{cases} 1 & \text{if} \quad d_{ti} = m \\ 0 & \text{if} \quad d_{ti} = 0 \end{cases}$$

It has been assumed so far that transition probabilities depend only on observed characteristics and time. This might not be the case, as unobserved characteristics (ability, effort) are likely to be relevant. Duration models that fail to account for unobserved heterogeneity run the risk of overestimating negative duration dependence (or underestimating positive duration dependence) as well as underestimating the effect of time-varying covariates (Lancaster, 1990; Vermunt, 1997). A parametric approach to control for unobservables would be to include an individual effect ϵ_i in the equations. This would be assumed to be time constant and independent of the observed covariates. However, the results of the model would be sensitive to the choice of the functional distribution of the unobserved effect. Therefore, we adopt the non-parametric mass-points approach introduced by Heckman and Singer (1984), and applied also in the latent class model approach

(Vermunt, 1997). According to this approach, the transitions to different states vary between a certain number of classes or groups of people in the sample. These classes or groups are not a priori defined, but they rather refer to groups of people with a different probability of exiting low pay (e.g. those with a high exit probability and those with a low exit probability). This methodology is applied by allowing the intercept b_0^m to vary across the L classes.[6] The transition probability per destination state m is assumed to vary between the latent classes. In this case, the transition probability for individual i that belongs to class ℓ is given by:

$$P_m(x_{it}, t, \ell) = \frac{\exp\left(b_{0\ell}^m + b_1^m \ln t + b_2^m X_{it}\right)}{1 + \sum_{m'=1}^{3} \exp(b_{0\ell}^{m'} + b_1^{m'} \ln t + b_2^{m'} X_{it})} \tag{3}$$

The likelihood contribution of an individual belonging to class ℓ is:

$$L_i' = \sum_{\ell=1}^{L} L_{i|\ell}\ \pi_\ell \tag{4}$$

where π_ℓ is the probability of belonging to class ℓ.

III. DATA AND MAIN CONCEPTS

The study uses data for the period 1990-2003 from the three national panel datasets. For the UK, we use the British Household Panel Survey (BHPS). The BHPS waves 1-13, covering the years 1991-2003, are used. For Germany, we make use of the German Socio-

economic Panel (GSOEP). 14 waves are used, which cover the period 1990-2003. Data only from the former West Germany are used, as the labour market of East Germany presented considerable differences with the West German one, especially at the beginning of the 1990s. For the Netherlands, our data come from the Socio-Economic Panel (SEP). We make use of 13 waves of the panel, covering the years 1990-2002. The information from the three datasets has been made highly comparable for the purpose of this study.[7] Furthermore, the selected waves from these panels cover similar parts of the business cycle in the three countries.

Since our focus is on low-paid labour market entrants, we only select males aged 18-35, who enter the labour market for the first time in the period under scrutiny. Therefore, most of them are school leavers. Female employees are excluded as they tend to leave the labour market more often and for very different reasons than males (such as caring obligations). Thus, we cannot include female workers in our analysis without controlling for the factors responsible for their different career paths, which goes beyond the scope of this paper. In Germany, many young people enter the labour market through apprenticeship, which is part of the educational system. Therefore, we only consider them as labour market entrants after the completion of their apprenticeship. The possession of apprenticeship qualifications is used as a covariate in the model.

Our main economic variable is the gross hourly wage. From the SEP and the GSOEP only retrospective wage information is available. Henceforth, wage in t is derived from wave $t + 1$. The low-pay threshold is set to the two-thirds of the median hourly wage

income, which is the most commonly used threshold.[8]

Three types of variables are included in the analyses: demographic, human capital and job related characteristics. Demographic variables include age, and the family status of the individual. The highest level of completed general education, and the occurrence of recent formal training are the human capital variables. Job-related variables include information about the sector of employment, the size of the firm, the position in the workplace, the tenure, and the type of employment contract. We also control for the occurrence of an unemployment spell prior to the commencement of the first job. Business cycle effects are captured by the inclusion of calendar time as a covariate.

IV. RESULTS

Low-paid entrants

The percentage of the low paid among labour market entrants is depicted in Figure 1. As can be seen, a large percentage of job starters is low paid in all three countries. This percentage is much higher than the relevant proportion among all working males. The incidence of low pay among labour market entrants is quite similar in the UK and in Germany (around 60% in most years), but much lower in the Netherlands (around 40% in most years). Our finding is in accordance with Burkhauser et al. (1997) who find no significant difference in the incidence and persistence of low pay between the US (for which one can have similar expectations as for the UK) and Germany.

[Insert Figure 1 about here]

The mean duration of low pay is rather short in all 3 countries (Table 1). The longest mean duration is observed in the Netherlands (1.8 years) while the shortest is in the UK (1.5 years). The composition of our sample (Table 1) shows that the low paid job starters are usually single people younger than 25 years of age, with a high school education, working as blue-collar workers with a temporary contract in the commercial services or in the industry sector. Many of them have experienced an unemployment spell before getting their first job. National samples, however, present some differences. The Dutch low paid labour market entrants are younger than their German and British colleagues, and almost all of them are high school graduates. As expected, the distribution of the British sample is more equal across educational levels. In Germany, low paid job starters are working more often in the industry sector than in the UK and in the Netherlands. An unemployment spell during the school-to-work transition is much more common for young British males.

[Insert Table 1 about here]

Exits out of low pay

A straightforward means to investigate cross-country differences in exits from low pay is the use of turnover tables. As shown in Table 2, low-pay persistence is higher in the UK than in the other two countries. This is in line with the findings of previous studies. Transitions from low pay to unemployment are also more common in Germany and in the UK than in the Netherlands (see also Stewart, forthcoming, for the UK). The employment growth in the Dutch economy in the period under scrutiny resulted in a substantial increase in

labour market participation as well as in a sharp decrease of unemployment. Therefore, the labour market opportunities of the low paid improved considerably. Transitions from low to higher pay are less in the UK than in both Germany and the Netherlands. This suggests that in the UK, people experience less upward mobility with respect to their wage.

[Insert Table 2 about here]

A surprising finding is that transitions to "other states" are the lowest in the UK. A closer examination of these transitions, however, reveals that there are no inconsistencies; in the UK, low paid job starters that move to "other" states, usually become self-employed, while in Germany and in the Netherlands transitions to "other" refer to transitions to education or to inactivity. In Germany, there is a significant proportion of young people (12.3%) that, after beginning their working career with a low paid job, enroll in an apprenticeship in order to improve their wage and employment prospects. Due to data limitations, however, it is not possible to distinguish among exits to inactivity, to self-employment, and to education.

Low-pay duration

Information on the duration of low-pay spells is provided by the survival functions. Figure 2 plots the cumulative staying probability after t years of low-pay employment for all three countries, considering only transitions to higher pay. Escaping low pay appears to be easier in Germany as compared to the UK and the Netherlands.

[Insert Figure 2 about here]

Plotting the survival functions per educational status reveals more differences between, but also within countries. Figure 3 (first panel) shows that, as expected, the educational level affects only partially the staying probability in low pay, in the UK. Thus, the low educated job starters have a disadvantage over their more qualified peers; but the highly educated low-pay workers seem to have the same chances to escape low pay as their colleagues with a high school diploma. In Germany, the findings are similar to the UK, but not in accordance to our expectations (Figure 3, second panel). Although, as expected, the staying probability decreases sharply for the high educated, the decrease is equally sharp for the medium educated. This finding is investigated in more detail, further on.

[Insert Figures 3 about here]

The survival curves for the Netherlands (Figure 3, third panel) differ significantly from the relevant curves for both the UK and Germany. The advantage of the Dutch high educated, in terms of shorter low-pay duration, is substantial; the staying probability is low and decreases fast. The survival curve for the low qualified job starters is the most inelastic among all three countries.[9] It seems that an experience of low pay has a scarring effect on the low educated workers in the Netherlands.

Results from the competing risks model

The model that best fits the data is a two-class model. This model suggests the existence of two types of labour market entrants, with different transition probabilities (see section 3). The first type has a high probability of moving to higher pay - the movers (85% of all cases) -, while the other type has a low probability - the stayers (15% of all cases). Although the probability of staying in low pay is not very different among the two groups (53.9% for the movers against 51.7% for the stayers; see Table 3), both groups do differ significantly with respect to the type of transition they make when they do exit low pay. Movers are more likely to exit to higher pay (with a probability of 27.5% percent), while stayers, when moving, tend to exit to unemployment or even out of paid employment (with a probability of 16.5% and 33% respectively). Therefore, we can assume that our sample is split into one class for which low pay is more a stepping stone (movers); and another class that is trapped in persistent transitions between low pay and unemployment or inactivity (stayers).[10]

[Insert Table 3 about here]

Tables 4a and 4b present the estimates for the coefficients from the competing risks model. In this model, remaining in low pay is treated as the reference category. Therefore, the estimates we discuss are those concerning the transitions to higher pay, unemployment and other non-employment states. Based on the shape of the survival curves, we use the Weibull specification for duration dependence. Calendar time is included as a linear trend.[11] The model is estimated on a pooled dataset for the three countries with the

inclusion of country dummies. When effects for the covariates were significantly different across countries, we included cross terms per country (Table 4b). In the discussion of the results, we mainly focus on the covariates that are of interest in light of our expectations (Section 2): duration dependence, formal educational level, firm-specific human capital (training participation and tenure).

The results indicate the presence of positive duration dependence for transitions to higher pay, and negative duration dependence for exits to unemployment and other states. Thus, the longer the low-pay spell for a job starter, the higher the probability for a wage increase, and the lower the probability for a transition to unemployment or out of paid employment (see Table 4b). Duration effects are similar in all 3 countries.

[Insert Tables 4a and 4b about here]

General and firm-specific human capital seem to account for a large part of the differences in exit probabilities at the individual level. Workers with average and especially with higher educational qualifications are more likely to escape low pay as well as to avoid unemployment, than their low-educated colleagues. As for country differences, our expectation that the German school-to-work system would reward formal education more than the British system is not verified. In fact, the only cross-country differences we find, concern the exits out of paid employment, with lower transition rates for the high educated in Germany, and higher transition rates for the average and high educated low paid entrants in the Netherlands.

The effect of firm-specific human capital on the transition probabilities appears to vary across countries. In the UK, transition probabilities to higher pay, unemployment and other states increase with tenure. Some job starters benefit from being employed by a certain employer and manage to get a higher wage after some time, while for some others the match with their employer proves to be poor and they move to unemployment or to inactivity. However, in the Netherlands and in Germany, where the wages of the low paid are fixed by collective agreements and the level of employment protection is high, these effects are almost non-existent. This partly supports our expectation that the rewards to firm-specific human capital are larger in the UK.

Participating in training, does not affect the transition probability to higher pay in the UK and the Netherlands. It does, however, reduce the probability of an exit to unemployment. This effect is somewhat larger in Germany. What matters more in Germany is apprenticeship: low-paid job starters with apprenticeship qualifications have better wage prospects. Due to data limitations we were not able to estimate this effect for the other two countries.

Other interesting findings from the model concern the sector of industry, the firm size and the type of employment contract. The results show that transitions to unemployment are more common in low-skilled sectors (such as industry in Germany). This is probably due to the decreasing employment demand in such sectors. There are, however, some cross-country differences. In the Netherlands, young entrants in the industry sector are less likely to move to higher pay; those working in non-commercial services in the public

sector are more likely to move to high pay or to unemployment. In Germany, entrants in the industry are more likely to exit from low pay to unemployment than in the UK.

Firm size effects reflect the opportunities for within firm mobility. Low paid entrants in large firms have more opportunities to move upward, to better paid jobs. Although we expected this effect to be stronger in the UK (as the "internal labour markets" are dominant) than in Germany, we fail to find any country differences.

Part-time work as well as working with a temporary contract are a disadvantage for low-paid labour market entrants. Working part-time decreases the transition probability to higher pay, while working with a temporary contract increases the probability for a job-to-unemployment transition. The latter finding, however, does not hold for the Netherlands where entrants with a temporary contract are more likely to move to higher pay. It seems that the combination of security and flexibility in the Dutch labour market makes temporary contracts "stepping stones" to better paid jobs for some job starters (Wilthagen et al., 2004).

The well documented scarring effect of unemployment is verified by our analysis. Thus, workers who experienced an unemployment spell during their transition from education to work have a higher probability to remain trapped in low pay in all three countries and have a higher probability to return to unemployment in Germany. This points again to increased persistency in the transitions between unemployment and low pay.

Finally, the estimates for the country dummies are consistent with our bivariate findings of Figure 2. The transition probability to higher pay is larger in Germany than in the

UK and in the Netherlands. Furthermore, in Germany the exit probability out of paid employment is larger than in the two other countries.

V. CONCLUSIONS

In this paper, we performed a cross-country study of the wage and employment transitions of the low paid labour market entrants (workers in their first job). This subgroup of wage earners has not received much attention to date. We applied a discrete time hazard model for transitions from low pay to higher pay, to unemployment or to other non-employment states, controlling for unobserved heterogeneity.

At first glance, our results seem to favor the "stepping stone" experience hypothesis, as most job starters move out of low pay after a few years. However, we find evidence supporting the findings of previous studies, for persistency in transitions between low pay, unemployment and inactivity. When labour market entrants leave low pay, they might move to unemployment or out of paid employment instead of getting a higher wage. Therefore, although low pay may not be a trap by itself for labour market entrants; low pay, unemployment and inactivity together, seem a considerable threat for this group of workers. This is mainly demonstrated by stickier wages in the UK, as well as by frequent transitions to inactivity in the Netherlands and in Germany, and frequent moves to unemployment in the UK and in Germany. Although these findings for the UK are not in accordance with our expectations for a liberal labour market, they are in accordance with previous studies. Increased job mobility in a low regulated labour market does not ensure better earnings

opportunities for the low paid job starters.

As far as the factors determining the exits from low pay are concerned, we conclude that the literature on the school-to-work transition that has been successfully used in explaining the labour market opportunities of young entrants, can partly explain the wage dynamics patterns of the low paid labour market entrants. Thus, formal schooling and firm-specific skills (in the form of tenure and not of training) are the most important determinants of low-pay exits. We expected the rewards to formal skills to be larger in Germany than in the UK, and firm-specific human capital to be rewarded more in the UK. The latter expectation seems to be verified, while the former is not. On the whole, however, the dual educational system and the regulated labour market of Germany seem to provide more upward mobility opportunities for the low paid labour market entrants than both the liberal British and the Dutch system. Further research should elaborate more on cross country differences. The development of large panel datasets containing more detailed information on the actual educational level and the job characteristics of workers could contribute the most in such a research field.

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Notes

[1]The youth unemployment rate has increased from 12.3% to 13.4% in OECD countries between 1990 and 2004 (OECD, 2005).

[2]However, we do not test for the effect of specific institutions. This would require detailed data from a large number of countries, which are not available.

[3]This is true only after the deregulation of the UK labour market in the 1980s. The characteristics of the countries presented here are not a static approach. Marsden (1990), for example, suggests that the UK labour market resembles the German one, as he uses data from the early 1980s.

[4]We consider that low paid workers are constrained in their transitions. We assume that all low paid workers would like to move to higher pay and that staying in low pay as well as moving to unemployment or inactivity is an involuntary action. Therefore, we can estimate the model in a reduced form.

[5]As our sample includes only people who get their first job within the reference period, initial conditions is not an issue in our analysis.

[6]We base our choice for the number of classes on the Akaike (AIC) and Bayesian (BIC) information criteria.

[7]The BHPS data were made available by the Data Archive at Essex University. The GSOEP was provided by the German Institute for Economic Research. The SEP was made accessible by Statistics Netherlands.

[8]This threshold is used in many comparative studies (for a discussion about low-pay thresholds see OECD, 1997). The analyses have also been performed using the first quartile of the wage distribution as the low-pay threshold. This does not affect the results in any significant way.

[9]The completely flat survival curve after 4 years of low-pay duration is due to the small number of cases and thus, is not worth of any substantial explanation.

[10]This ignores the fact that transitions to "other" states include moves to self-employment. However, such transitions concern only a small number of cases.

[11]We also tried a non-parametric specification of duration and time, but it produced similar results.

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Tables and Figures

Table 1: Composition of the sample
(in percentages)

		Netherlands	Germany	UK
Mean low-pay duration (in years)		1.8	1.6	1.5
Age	18-24 years	75.3	68.4	70.5
	25-29 years	20.1	22.9	19.9
	30-34 years	4.6	8.7	9.0
Married		4.6	10.4	23.5
Education	low	6.4	37.4	20.6
	medium	80.7	57.8	51.5
	high	12.9	4.8	27.9
Training		43.8	55.5	30.0
Firm size	1-20 (1-24 in Germany)	31.6	39.7	43.2
	20-99 (25-199 in Germany)	26.3	26.8	26.6
	100 or more (200 in Germany)	42.1	33.6	30.2
Industry	commercial services	52.4	24.8	54.1
	industry	25.9	45.8	29.8
	primary sector	2.4	2.2	4.3
	non-commercial services	12.4	16.9	5.0
	non-commercial services, public	7.1	10.3	6.8
White collar		7.5	25.5	16.5
Part-time		33.1	19.2	11.3
Temporary contract		46.2	50.3	23.6
Unemployment spell		16.1	14.5	28.5
Apprenticeship (prior to labour market entry)			44.8	
Cases		174	607	750

Table 2: Overall transitions

	UK	**Germany**	**Netherlands**
Remaining in low pay	66.4%	41.5%	48.9%
Higher pay	18.2%	28.5%	23.0%
Unemployment	6.1%	6.9%	4.0%
Other	9.3%	23.0%	24.1%
Total	100%	100%	100%
Transitions	1,075	922	278

Table 3: Transition probabilities in the two classes

	Class 1	**Class 2**
Class Size	0.853	0.147
Remaining in low pay	0.539	0.517
Higher pay	0.275	0.004
Unemployment	0.044	0.165
Other	0.142	0.314

Table 4a: Estimation results of the competing risks model
Intercepts and covariates without interaction effects (robust standard error)

		higher pay	unemployment	other
Time		**-0.007**	**0.014**	**-0.038***
		(0.021)	(0.035)	(0.023)
Age (ref. 18-24)	**25-29**	**0.517*****	**-0.568***	**-0.561*****
		(0.162)	(0.326)	(0.207)
	30-34	**0.587*****	**0.728**	**-0.643**
		(0.251)	(0.365)	(0.338)
Firm size (ref. less than 20 employees)	**20-99 employees**	**0.462*****	**0.354**	**-0.145**
		(0.182)	(0.263)	(0.206)
	100 or more employees	**0.853*****	**-0.275**	**-0.159**
		(0.176)	(0.304)	(0.209)
Part time		**-0.500****	**0.456**	**0.870*****
		(0.217)	(0.320)	(0.188)
Apprenticeship		**0.751*****	**-0.631**	**-1.339*****
		(0.234)	(0.425)	(0.288)
Constant class 1		**-2.960*****	**-1.531*****	**-1.573*****
		(0.294)	(0.466)	(0.336)
Constant class 2		**-7.642*****	**0.184**	**-0.381**
		(2.020)	(0.823)	(0.591)
Transitions		523	140	379
Log likelihood	-2168.68			
R^2	0.221			

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: Tables 4a and 4b present estimates from the same model. In Table 4a we present the estimates for the covariates that were the same across countries, while in Table 4b the estimates for the covariates that differ across countries are shown.

Table 4b: Estimation results of the competing risks model

Covariates with interaction effects (robust standard error)

		higher pay	unemployment	other
Main effect of country(ref. UK)	**Germany**	**1.597*****	**0.493**	**0.975*****
	(ref. UK)	(0.295)	(0.492)	(0.319)
	Netherlands	**0.729**	**-0.206**	**0.528**
	(ref. UK)	(0.681)	(1.176)	(0.777)
Log duration with country	**Main effect**	**0.466*****	**-1.037*****	**-1.011*****
		(0.174)	(0.384)	(0.266)
	Germany	**-0.371**	**0.728**	**0.642***
	(ref. UK, Netherlands)	(0.286)	(0.522)	(0.354)
Education with country (ref. low)	**Medium - main effect**	**0.454*****	**-0.820*****	**-0.139**
		(0.183)	(0.264)	(0.180)
	High - main effect	**1.100*****	**-1.006****	**-0.052**
		(0.249)	(0.441)	(0.309)
	High - Germany	**-0.756**	**-0.177**	**-0.875***
	(ref. UK)	(0.466)	(0.857)	(0.497)
	Medium - Netherlands	**0.388**	**0.379**	**1.341***
	(ref. UK - Germany)	(0.640)	(1.073)	(0.742)
	High - Netherlands	**1.124**	**0.816**	**2.047****
	(ref. UK)	(0.848)	(1.595)	(0.984)
Training with country	**Main effect**	**-0.051**	**-0.772***	**-0.384**
		(0.220)	(0.431)	(0.291)
	Germany	**-0.613****	**-1.030***	**1.010*****
	(ref. UK, Netherlands)	(0.287)	(0.579)	(0.363)
Tenure with country (in years)	**Main effect**	**0.118****	**0.211****	**0.345*****
		(0.056)	(0.098)	(0.064)
	Germany	**-0.110****	**-0.232****	**-0.349*****
	(ref. UK)	(0.056)	(0.099)	(0.065)
	Netherlands	**-0.125*****	**-0.210****	**-0.348*****
	(ref. UK)	(0.056)	(0.098)	(0.064)
Transitions		523	140	379
Log likelihood	-2168.68			
R^2	0.221			

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: The reference country is the UK. When another country is included in the brackets in the second column, this country is not found to differ significantly from the UK and the interaction of this country dummy with the relevant covariate is not included in the model. For example the estimates for "education, medium-Netherlands (UK-Germany)" measures the difference of the effect of medium education in the Netherlands compared to both UK and Germany (and this effect is the same for the UK and Germany).

Table 4b: Estimation results of the competing risks model

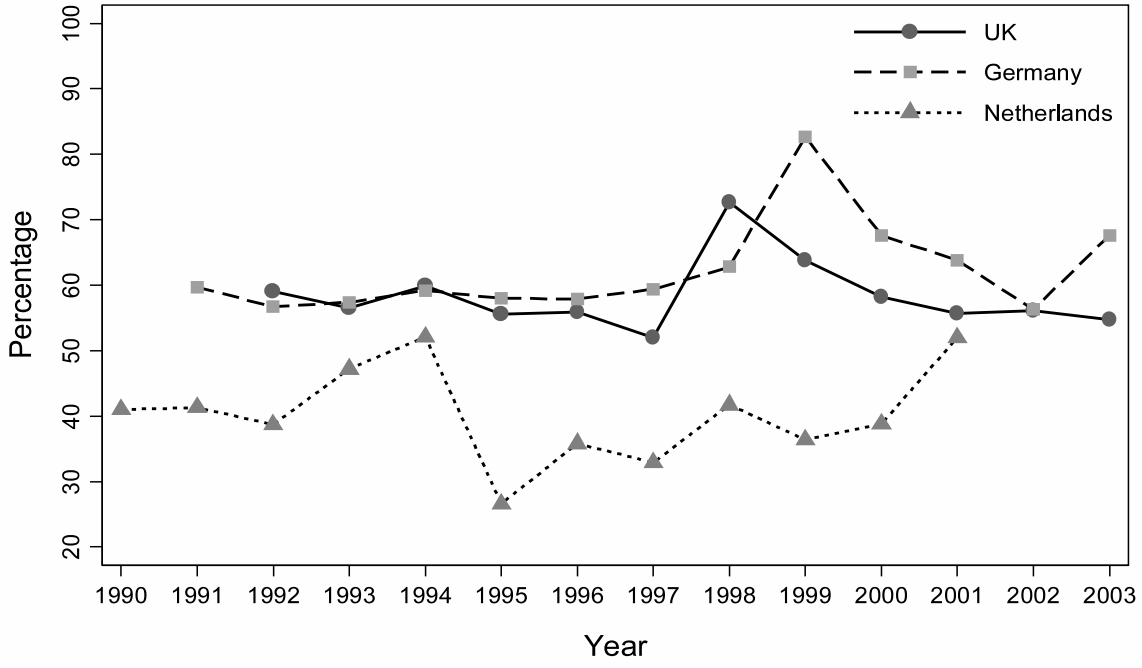
Covariates with interaction effects (robust standard error)

		higher pay	unemployment	other
Sector with country (ref. commercial services)	**Industry - main effect**	**0.416****	**-0.113**	**0.091**
		(0.198)	(0.329)	(0.283)
	Primary sector - main effect	**-0.308**	**-0.043**	**0.359**
		(0.410)	(0.590)	(0.394)
	non-commercial services - main effect	**0.051**	**-0.822***	**0.028**
		(0.245)	(0.452)	(0.238)
	non-commercial services public sector - main effect	**-0.205**	**-0.882**	**-0.529**
		(0.257)	(0.576)	(0.320)
	Industry - Germany (ref. UK)	**0.044**	**0.954****	**0.744****
		(0.289)	(0.486)	(0.352)
	Industry - Netherlands (ref. UK)	**-1.053****	**-1.354**	**-0.317**
		(0.449)	(1.171)	(0.486)
	non-commercial services public - Netherlands (ref. UK - Germany)	**1.654****	**3.772*****	**0.846**
		(0.838)	(1.202)	(0.948)
Temporary contract with country	**Main effect**	**0.001**	**0.728****	**0.816*****
		(0.260)	(0.350)	(0.281)
	Netherlands (ref. UK, Germany)	**1.016****	**0.305**	**0.237**
		(0.512)	(0.946)	(0.506)
White collar job with country	**Main effect**	**0.508*****	**-0.736****	**-0.046**
		(0.167)	(0.372)	(0.212)
	Netherlands (ref. UK, Germany)	**-1.283****	**-105.533**	**-0.246**
		(0.599)	(51.180)	(0.640)
Unemployment spell prior to job with country	**Main effect**	**-0.408****	**0.058**	**-0.508****
		(0.203)	(0.323)	(0.269)
	Germany (ref. UK, Netherlands)	**0.016**	**0.851***	**0.659**
		(0.389)	(0.515)	(0.428)
Married with country	**Main effect**	**0.201**	**0.101**	**0.292**
		(0.220)	(0.385)	(0.306)
	Germany (ref. UK, Netherlands)	**1.067****	**0.127**	**-0.455**
		(0.410)	(0.604)	(0.551)
Transitions		523	140	379
Log likelihood	-2168.68			
R^2	0.221			

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: The reference country is the UK. When another country is included in the brackets in the second column, this country is not found to differ significantly from the UK and the interaction of this country dummy with the relevant covariate is not included in the model. For example the estimates for "education, medium-Netherlands (UK-Germany)" measures the difference of the effect of medium education in the Netherlands compared to both UK and Germany (and this effect is the same for the UK and Germany).

Figure 1: Percentages of low paid labour market entrants



Note: This figure plots the fraction of the low paid among labour market entrants

Figure 2: Cumulative staying probability

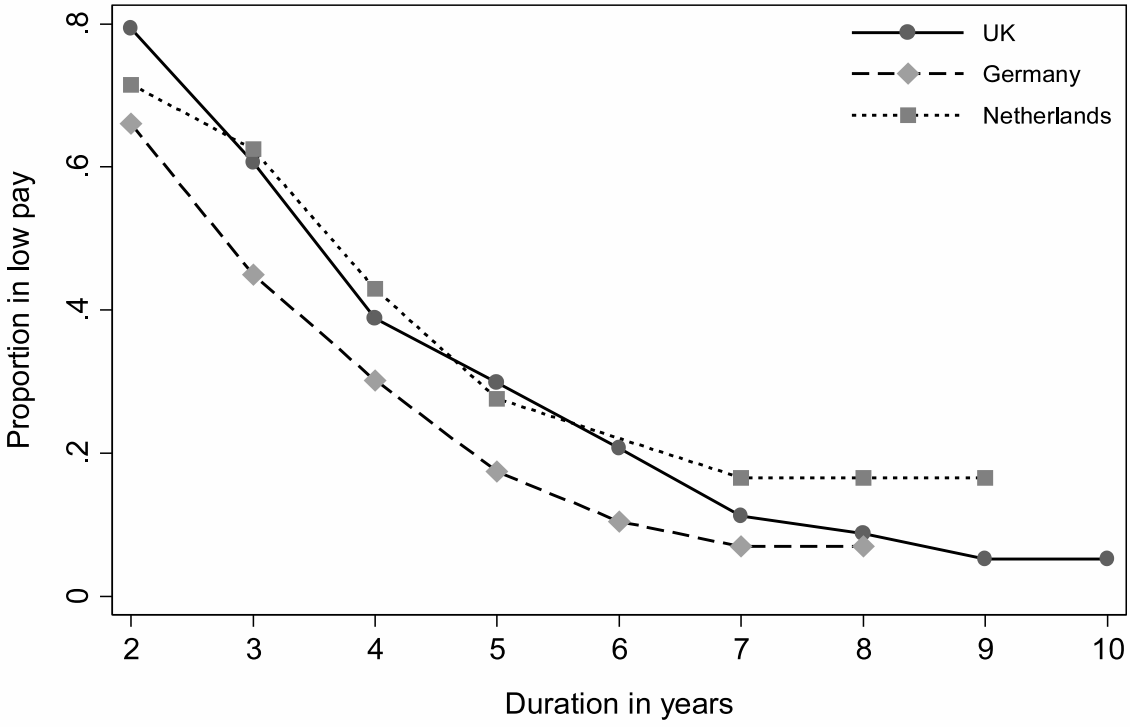
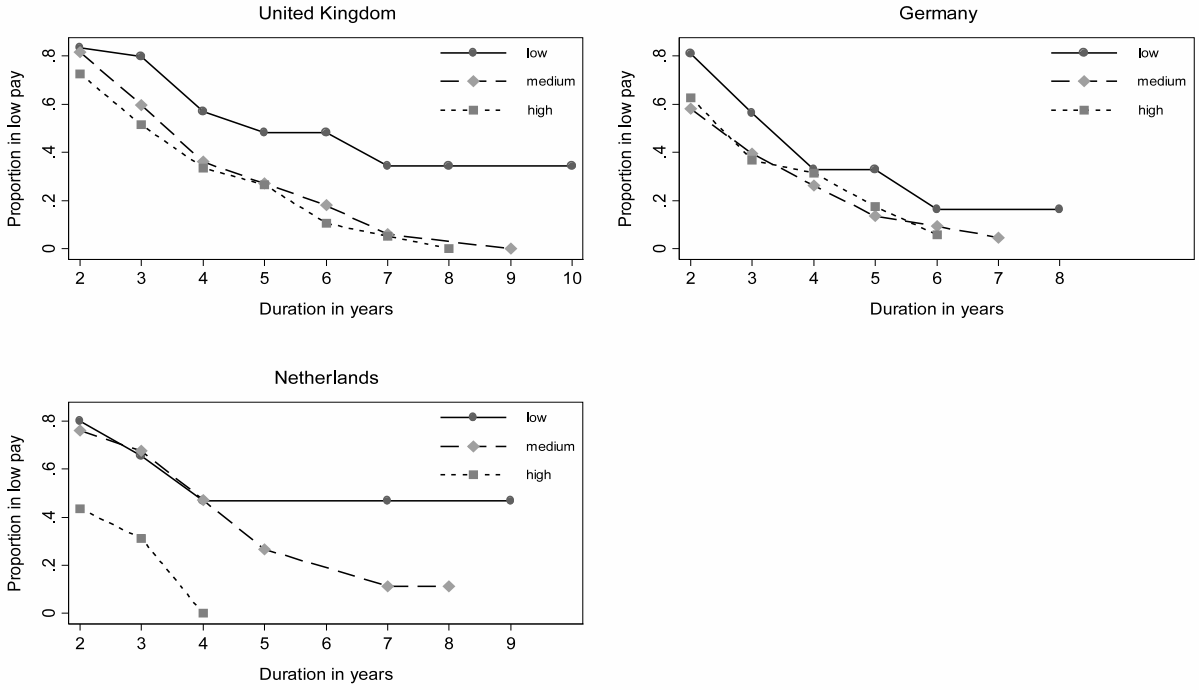


Figure 3: Cumulative staying probability per educational level



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