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## Labour market transitions and wage dynamics in Europe

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**LABOUR MARKET TRANSITIONS  
AND WAGE DYNAMICS IN EUROPE**

**José M. Arranz, María A. Davia and Carlos García-Serrano**

**ISER Working Paper  
2005-17**

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## **ABSTRACT**

Using longitudinal data on individual workers from six European countries for the period 1995-2001, the authors analyse empirically the relationship between labour market transitions and wage growth; in particular, whether transitions across states in the labour market have any significant influence on wage dynamics and the size of this influence. In addition to the incidence of unemployment and inactivity spells on wages, the effects of the duration of job interruption, the time elapsed since job ending and the reasons for job interruption are analysed as well.

## NON-TECHNICAL SUMMARY

This paper analyses the links between labour market transitions and wage changes experienced by men in several countries of the European Union, during seven consecutive years (1995-2001) with data from the ECHP. The question addressed is whether employment transitions affect wage dynamics and, if so, to which extent they do. For that, we study male wage earners in Germany, Spain, Italy, France, Portugal and the UK.

The main results may be summarised as follows:

First of all, workers who experience an employment interruption and go through an unemployment or inactivity spell between two jobs, suffer relative wage losses when they re-enter employment. Wage losses are more intensive when job interruptions imply an inactivity spell than when they are related to unemployment. This is the case in all the countries of our study except in the UK, where the effect of both types of transitions is similar and very small.

Secondly, the scarring effect of non-employment spells on wages is larger the longer the non-employment spells are, particularly in France, the UK and Spain. All the same, the scarring effect aggravates more with time for inactivity spells than for unemployment spells.

Thirdly, the negative effect of unemployment on the evolution of re-entry wages is temporary among workers in the UK and France, and tends to vanish after one year in the new job. However, in other countries, namely, in Spain, Germany, Italy and Portugal, this effect is more persistent, since wage scars tend to become more intensive with time. This is a common result for all age groups, although the losses are more serious for those aged between 30 and 45.

Finally, as regards the willingness in the labour market transition, individuals who experience voluntary transitions tend to register wage gains in their new jobs, although this is significant only in Italy and Portugal. On the other hand, dismissed employees or those whose employment contracts came to an end register wage losses.

## 1. Introduction

This paper aims to analyse the relationship between labour market transitions and individual wage growth in different countries of the European Union. Our interest is in knowing whether transitions across states in the labour market have any significant influence on wage dynamics and the size of this influence (if any)<sup>1</sup>. Amongst more specific questions to tackle, we could select the following: Are there either gains or losses due to job mobility? Is willingness to move influencing this gain or loss? Are there different wage dynamics among those who move across jobs through a non-employment experience, those who move directly across jobs and those who stay with their employer? Should wage losses be observed amongst workers hit by unemployment, are they permanent or temporary? If unemployment spells cause wage losses, are they due to the mere incidence of unemployment or to the duration of unemployment spells? Are wage gains and losses heterogeneous across different types of workers?

These are very relevant questions both from an academic perspective and from the social policy maker viewpoint. For instance, the influence of dismissals and unemployment spells on wage dynamics is crucial because, should individuals be scarred by unemployment experiences, these transitions would have a lasting influence on wage differentials and on incentives to come back to employment. Therefore, the plausible long-term effects of unemployment on wages may determine individual behaviour in the labour market. Should we detect scarring effects of unemployment (incidence and/or duration) on wages, employment policies should be targeted at reducing both unemployment incidence and duration.

Previous works have focused their attention on some of the above-mentioned issues. One strand of the literature has studied the impact of job-to-job movements on wages (Mincer, 1986), while another tries to measure the size of wage losses caused by non-voluntary movements (dismissals) upon re-employment of workers (Hamermesh, 1987; Jacobson et al., 1993; Burda and Mertens, 2001; Arulampalam, 2001; and Gregory and Jukes, 2001). Other works analyse the influence of the accumulation of transitions out of employment on wage losses (Stevens, 1997). And finally, there are some that look at differences across countries, using differences in labour market institutions as a tool to provide an explanation (Kuhn, 2002).

This paper also aims to provide comparative evidence. The dataset used here is the European Community Household Panel (hereinafter, ECHP). Being a European endeavour, this data-set was

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<sup>1</sup> Transitions in the labour market are to be classified as follows: direct job to job movements ( $E \rightarrow E$ ), movements across jobs through unemployment ( $E \rightarrow U \rightarrow E$ ) or through inactivity ( $E \rightarrow I \rightarrow E$ ). They may also be either voluntary (if a better job is achieved) or involuntary (when a temporary contract comes to an end or due to an individual or collective dismissal). This heterogeneity will be taken into account in the empirical analysis developed in the following pages.

designed and launched by *Eurostat* to obtain comparable and dynamic figures about many aspects, including labour market issues, several types of income, living standards, education and training, employment and not employment-related satisfaction, health and migration among many others.

Two features of the ECHP may help to throw light upon the link between job mobility and wage dynamics. On the one hand, it is a longitudinal dataset, which is a basic requirement for tackling longitudinal issues, such as both labour market transitions and wage mobility. On the other hand, it provides homogeneous information for different countries, which allows for a comparative approach. Comparative approaches are useful when researchers want to investigate the effect of institutional frameworks on their variables of interest, since institutional frameworks tend to be macroeconomic/context variables that vary across countries (and, sometimes, also across time). Should the effects of an explanatory variable on a dependent variable be consistent in different countries, then we may be reassured that our labour market hypotheses hold and the market forces driving the behaviour of our dependent variables are strong enough.

In order to find evidence on different institutional frameworks, we have chosen six countries: Spain, Germany, France, Italy, Portugal and United Kingdom. We will use all the waves of the ECHP except the first one, since it lacks information on the type of contract, which is a very relevant variable both on determining transitions out of employment and across jobs, and wage formation.

The contents of the paper go as follows. Section 2 surveys both the theoretical approaches and the empirical literature on job mobility and wage mobility. Section 3 explains how we have selected our sample and constructed the main relevant variables and displays a first description of the sample. Section 4 is devoted to the empirical strategy (we perform a fixed-effects or within groups estimation) and to describe the main methodological problems to be tackled in the study of job mobility and wage mobility. Section 5 shows the main results for the estimations, which will be performed both jointly and separately, for each country. Section 6 summarises the main results and provides a conclusion.

## **2. Literature survey**

The link between job mobility and wage mobility has motivated a large amount of empirical work in the last years, particularly that focusing on the possible scarring effect of unemployment spells on the subsequent jobs and on the progression in the working career. This responds to a two-fold motivation. On the one hand, different economic theories lead to different predictions on the effect of labour market transitions on wages. This urges for empirical analysis to disentangle the puzzle. On the other hand, the dynamic nature of the relation between employment transitions and wage growth



requires the use of longitudinal data sets, which have not been available in most European countries until recently<sup>2</sup>.

The first theoretical approach to the multidimensional problem of job mobility, wages and wage growth was developed in Blumen et al. (1955). In this first approach, workers who move across jobs (movers) and those who remain with the same employer (stayers) are assumed to be inherently different. Movers are less stable and less productive than stayers, and their wages are, accordingly, lower. Therefore, the problem comes down to a matter of individual (unobserved) heterogeneity (Farber, 1994).

A Human Capital perspective would stress the relevance of investments in specific human capital amongst stayers, which are not transferable to other firms or jobs (Becker, 1962; Parsons, 1972; Hashimoto, 1981). Through experience and on-the-job training workers acquire specific qualifications along time (being, therefore, correlated with tenure or experience) that contribute to productivity and wages. This makes job mobility less attractive: should returns to specific qualifications increase faster than the ones to general education, the probability that an external offer will exceed the current wage (after adjusting for the cost of the transition itself) will decrease with seniority (Mortensen, 1978).

In this framework, the (un)willingness of the transitions in the labour market is crucial to make predictions on wage growth. Workers will only move voluntarily if the offered wage exceeds the current one. Nevertheless, workers who unwillingly detach from their employers (and, therefore, cannot obtain returns to specific qualifications) are very likely to experience wage losses when they come back to employment. In many cases dismissed workers will experience an unemployment spell, which may also contribute to future wage losses. On the one hand, there is a risk of human capital deterioration and qualifications get obsolete with time. This will reduce productivity and, as a result, re-employment probabilities and wages as well. On the other hand, if employers have limited/imperfect information about workers' productivity at the moment of hiring them, they may take former experiences as a signal for productivity. This would lead them to discriminate against workers with prior unemployment spells and offer them lower wages (Vishwanath, 1989; Pissarides, 1992).

The development of specific qualifications in a job or a firm is not the only explanatory factor for (relatively high) wages. Other factors are efficiency wages, the role of unions, and deferred payment mechanisms, among others. As a result, a job loss may end up in wage losses if workers receive a higher wage in the former employer than what they would have obtained in other firms. For instance,

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<sup>2</sup> With the exception of the German (GSOEP) and the British (BHPS) household panels.

when workers move to a new firm, they may be renouncing wage increases and compensations that are not directly linked to productivity but to mere seniority. This may worsen if workers and employers sign long term contracts, which provide initial wages below productivity in exchange for higher wages in the future (Lazear, 1981).

The Job Matching Theory predicts a possible positive effect of job mobility on wages. This could happen if workers willingly leave their jobs in the pursuit of a better matching in the labour market (Jovanovic, 1979a): should they succeed, wages will be higher in the new jobs. Another argument for explaining this increase in wages with job mobility is based on whether job mobility helps workers to learn about their own productivity. If workers improve their awareness about their own productivity with time, they will tend to leave those jobs where they do not experience improvements in productivity with seniority, so that a stable employer-employee matching will be a signal of high productivity, and high productive workers are, accordingly, highly paid (Jovanovic, 1979b). In this context, unemployment will not necessarily negatively influence final wages, since it is seen as an investment period that may foster a better matching with a future employer.

Empirical evidence about the impact of job-to-job movements on wages (direct moves across jobs) shows that job mobility pays, since it is linked to wage increases (Mincer, 1986). Nevertheless, empirical literature on non voluntary movements -particularly based in Anglo-Saxon evidence- find that dismissed workers do register wage losses when they re-enter employment, and they are more relevant the longer the tenure they had accumulated in their former jobs (Hamermesh, 1987, Ruhm, 1991, Jacobson et al., 1993, amongst others, for the North American case; Arulampalam, 2001, and Gregory and Jukes, 2001, for the British case). Some pieces of evidence also point at accumulation of transitions out of employment as the main explanatory factor for those wage losses (Stevens, 1997). Nevertheless, these results do not seem to be corroborated in Continental Europe (Burda and Mertens, 2001, using a German data-set, and Kuhn, 2002)<sup>3</sup>.

The hypotheses derived from the theoretical approaches are based on assumptions about the institutional framework prevalent in the labour market. But the real institutional framework may well differ from the one assumed to hold in the theory, so that, as empirical evidence shows, reality is not always consistent with the expected trends across countries. One of the potential explanations to differences across countries as regards the outcome of job mobility may be found in the differences in the institutional framework. Institutions that affect both wage determination and job mobility vary across

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<sup>3</sup> Kletzer (1998) is an excellent survey of North American evidence on the topic. Kuhn (2002) compares results for some European countries, the US, Canada, Australia and Japan.

countries. But institutions should not be studied one by one (or just one dimension of an institution) but as a whole (Bertola and Rogerson, 1997). One of the features of institutions is their multidimensionality, so that trying to take a simple measure of one or some of their components may generate a fairly vague impression of their relative rigidity or flexibility. This means that, even in the same country, a particular component of an institution may have a positive influence on labour market transitions and their outcome, whereas another component may have the opposite effect.

As regards comparative evidence, an interesting comparative joint work is gathered in Kuhn (2002). It displays, at least, two results: first, it corroborates the previous evidence about dismissal causing deep and long lasting wage losses in the US and the UK, where employment protection legislation is somehow weak and unionisation rates are low; second, in countries where labour markets are, *a priori*, less flexible, with a more restrictive employment protection legislation and a more compressed wage structure (such as in Continental Europe) wage losses due to dismissals are small or even null. In any case, those wage losses are relevant for those workers who had been for a long time in the jobs they lost and for those who have experienced long unemployment periods<sup>4</sup>.

### **3. Sample selection, main variables and descriptive analysis**

#### **3.1. Sample selection**

As said in the introduction, the dataset used in the paper is the European Community Household Panel. The information displayed in the ECHP allows researchers to distinguish between two groups of individuals: those who remain with the same employer during all the observation period (seven waves, covering from 1995 to 2001) and those who represent some sort of interruption with or without an intermediate non-employment spell. For the purposes of our analysis, interviewees must accomplish the following criteria to be included in the sample.

Firstly, they must have answered the personal questionnaire during the seven waves of the observation period and be classified as employed, unemployed or inactive in all of these interviews<sup>5</sup>. Secondly, since our basic endogenous variable is wage growth, we are only interested on individuals who report, at least twice, a positive wage. Thirdly, for the sake of homogeneity, only earnings from paid employment are considered and income from self-employment is excluded. Fourthly, we focus on men, since the analysis of job mobility and wage growth for women is more complicated, due to the

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<sup>4</sup> Other comparative studies concerning European countries are Davia (2005), and García-Pérez and Rebollo (2005).

<sup>5</sup> The motivation for this selection is that the lack of information on the individual labour market status wave by wave avoids the construction of the basic transition variable through unemployment or inactivity.

relevance of job interruptions that do not deal with labour market events, but with marriage, child rearing and the like. Moreover, in order to avoid labour market transitions related with early retirement, the sample is restricted to those who were 18 to 58 years old in 1995 (the first moment when we observe them). The last restriction is that extreme values in the wage distribution (i.e., the first and the last percentile) have been dropped to avoid distortions caused by out-layers.

We want to stress that the unemployment and inactivity spells we have taken into account in the analysis take place during the observation period (1995-2001) and we are unable to consider prior labour market transitions. Moreover, we have not omitted observations due to missing values in several relevant categories in order to avoid too many restrictions in the sample selection. Therefore, we have given a specific category to cases with missing information, which are used in the estimations as additional regressors.

Once the selection criteria are accomplished, the sample is formed by 9,205 men, which make 56,691 observations. Around 20 per cent of these correspond to German interviewees, 19 per cent to French, 18 per cent to Italians, 16 per cent of Spanish, 17 per cent of Portuguese and 10 per cent to British.

### **3.2. Relevant variables**

The ECHP questionnaire addresses several aspects that are very relevant for the current analysis. On the one hand, we have computed gross hourly wage using the information on monthly gross wage and working week. To make figures comparable, we have adjusted wages using parity purchase power indexes.

On the other hand, job interruptions have been derived from the information about the beginning of current job, the end of last job and whether there has been an unemployment period prior to the current job and, in that case, how long this unemployment spell was.

Therefore, if an individual was employed in 1995, the details about the month and year when the current job started and the date of the interview allow computing job tenure in the current job. In successive waves, the comparison between job tenure and the elapsed time between the last and the current interview allows us to infer whether there has been a job interruption between last and current interview. Should job tenure be shorter than elapsed time since the last job, the interviewee is assumed to be in a different job to the one (s)he held in the previous wave. This movement may entail a non-

employment spell. Questions about previous unemployment spells help to find out whether the movement across jobs has entailed an unemployment spell and, in that case, its duration<sup>6</sup>.

In addition, it is also possible to know the type of transition from answers to the question about why they ceased employment. These answers may be grouped into voluntary movements (direct movements across jobs) and involuntary (end of contract, individual or collective dismissal, and other reasons).

### 3.3 Basic descriptive analysis

It is somehow difficult to find a way to summarise all the information related to individuals who have made many different types of transitions across labour market states. Given that the relevant information is the labour market status prior to the current job, we have defined several groups according to their situation in the previous year. We have, therefore, divided wage earners among those who were employed (either in a different job or in the same job), those who were unemployed and those who were inactive.

Table A.1 in the Appendix gathers the average for the variables included in the analysis for different groups according to the status in the labour market in the previous year. It may be seen that 95 per cent of observations come from employment, almost 4 per cent come from unemployment and hardly 1 per cent come from inactivity. Should we focus on those who have experienced a job interruption (the movers), approximately 87 per cent of them come directly from a different job, 10 per cent have experienced unemployment between jobs and 3 per cent have experienced inactivity.

Table A.1 provides information on wages as well. Workers who have been continuously employed register a higher average gross hourly wage (more than 10 €) than those who come from unemployment (6.6 €) or inactivity (nearly 8€). At the same time, average wages for those who experience transitions are, on average, 1€ below the one for always employed workers. These results show first evidence that job mobility, when it is linked to a non-employment spell, may lead to lower wages. However, there could be observable or non-observable characteristics that contribute to wage dynamics as well, which call for a multivariate econometric analysis. Preliminary analysis should, therefore, be taken with care.

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<sup>6</sup> It is also possible to know when movements across jobs have entailed an inactivity period and its duration. To find it out, we use questions related to unemployment spells previous to the current job, prior labour market status and reason for last job being ended. Should the answer to this question be "marriage, child rearing, looking after elderly or ill persons, study, doing military service or being ill", we compute them as inactivity spells.

For instance, when we take age into account, the prior evidence gets somewhat tinged. Workers over 35 are far more present in the group of workers always employed (around 74 per cent of them belong to this age group) whereas those who come from unemployment or inactivity tend to be younger (41 per cent of those who come from unemployment and 59 per cent of those who come from inactivity are younger than 30 years old). As a consequence, labour market experience is far higher amongst those who are always employed.

As regards job characteristics, there are also relevant differences: those who come from employment are characterised by a higher proportion of full time workers (99 per cent) with permanent contracts (91 per cent) and jobs in the public sector are more common (27 per cent) as well as jobs in firms with more than 100 employees (25 per cent). Amongst those who come from unemployment, temporary contract holders represent 54 per cent, 85 per cent work in the private sector, and 96 per cent work full time. Workers coming from unemployment tend to be concentrated in certain industries. Thus, 41 per cent work in building, retail and restaurants and hotels, and 67 per cent work in small enterprises (with less than 50 employees). Most of these workers ceased employment due to end of the contract (42 per cent) or due to an individual dismissal (27 per cent). Finally, those who come from inactivity are, to a certain extent, similar to those coming from unemployment: most of them work in small firms and in the private sector. Nevertheless, compared to those who come from an unemployment spell, there is a higher proportion of individuals who hold a permanent position (58 per cent) in non manual qualified posts and they tended to cease in their last jobs due to other reasons, such as marriage, looking after either children, elderly or ill persons, study, attend the military service or sickness.

### **3.4. Complementary descriptive analysis**

Here we aim at showing, in a simple way, wage dynamics and how transitions influence them. To this aim, Figure 1 shows the evolution of hourly gross wage for workers who remain in employment, whereas Figure 2 shows the same results for different types of transition. In both figures the continuous wage increase is clear, as well as persistent differences in wages across countries. Portugal registers the lowest wage levels, quite below France, Germany and the UK. When stable and mobile workers are compared, stable workers wages are always above the ones for mobile, with the exception of the UK, where both groups are pretty similar, both as regards levels and evolution.

(Figures 1 and 2 over here)

Figure 3 shows the evolution of mobile and stable workers, this time splitting the sample by age group: youths (under 30 years old) adults (31-45) and middle-aged (over 45). Results are very interesting: wage levels are higher for mature workers, but wage dynamics are more intensive amongst youth. Mobile youth, whose wages are initially lower than those for movers, experience wage increases around 40 per cent (taking the whole observation period), whereas stable young workers wages increase are more stagnant, and increase around 24 per cent in the whole period. This contributes to a final convergence of wages between mobile and stable workers. Amongst adult workers, wages are slightly more dynamic for movers (29 per cent) than for stayers (24 per cent). Mobile middle-aged workers experience much lower wage increases than their stable counterparts (11 per cent against 31 per cent), which contributes to increase the already wide gap in wages of stable and mobile workers at the beginning of the period. We may say, in summary, that job mobility has a very different impact on wages depending on the moment in the life-cycle<sup>7</sup>.

(Figure 3 over here)

Another way of showing the potential relationship between job mobility and wage dynamics is to compute the average ratio of hourly gross wages between consecutive waves for stable and mobile workers along the observation period. Table 1 registers the results of this exercise. The sample has been split here by country, age groups, and we distinguish between movers and stayers, and among several types of job interruption, as well as reason for leaving the last employer. The right panel of the table shows the same analysis, this time country by country.

(Table 1 over here)

We may read information contained in this table in the following way: overall, real hourly gross wages in year  $t+1$  have been 1.08 times real hourly gross wages in year  $t$ , which means that overall year-in-year average wage increase has been 8 per cent.

Mobile workers always register higher wage increases in all countries (although they are a bit more stagnant in Italy). The gap between stable and mobile workers differs across age groups: it is wider for youths (3 per cent gap in all countries), slightly lower for those between 31 and 45, and pretty low for the middle-aged (it would seem that, on average, wage dynamics are similar across elder mobile and stable workers).

As for employees coming from unemployment or inactivity, youths obtain a relative wage increase even despite of coming from non-employment, whereas the advantage is practically non-

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<sup>7</sup> We have performed the same analysis by country. Results indicate that differences in wage dynamics across age groups are persistent in all countries. Figures are available from the authors upon request but not included in the text for the sake of brevity.

existent for the middle-aged. Youths (and, to a lesser extent, adults) register wage gains from labour market transitions even if they include non-employment spells, whereas the latter is not true for the middle-aged. There are differences across countries as well, with wage gains linked to transitions through inactivity in Germany and Italy, but not in Spain.

Information on cause for ceasing in past job corroborates the last evidence<sup>8</sup>. Workers who voluntarily leave their former jobs experience the higher wage increases, and obtain relative gains in terms of wage growth as regards stable workers. Youths are, by far, the group who takes more advantage of voluntary movements across jobs. On the contrary, dismissed workers aged less than 45 get lower wage increases (we could say, therefore, that they experience relative wage losses). Those over 45 experience higher relative wage losses when the last job ended due to the end of a contract or other reasons. Relative wage gains due to labour market transitions are inversely proportional to age. These results show a first clear evidence that voluntary job moves generate higher wage growth than stability and other types of labour market transitions, with the latter registering more stagnant wages than stable workers. However, we may not rule out that observed and unobserved heterogeneity linked to jobs and workers explains these differences, which calls for the econometric strategy we develop in the next sections.

#### 4. Methodological issues and empirical strategy

In order to disentangle whether employment interruptions affect wage dynamics and, if so, how much they do, we estimate a standard wage equation in the context of panel data:

$$\ln(w_{it}) = X_{it}\beta + D_{it}\alpha + \lambda_i + \varepsilon_{it} \quad (1)$$

where  $i=1, \dots, n$  are workers;  $t=1, \dots, 7$  are time periods (the 7 waves we use from the ECHP data);  $\ln(w_{it})$  is the logarithm of gross hourly wage of individual  $i$  in wave  $t$ ;  $X_{it}$  is a set of explanatory variables and defining the  $i$  individual in every wave of the panel (they may vary along the time);  $D_{it}$  is a dummy variable that indicates whether individual  $i$  experienced a job interruption before the current job at wave  $t$ ;  $\lambda_i$  registers the effect of individual unobserved heterogeneity; and  $\varepsilon_{it}$  is the error term in the equation (it has constant variance and it is assumed to be uncorrelated with observed and unobserved characteristics of individuals along time).

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<sup>8</sup> We have not displayed this information country by country due to the small sample sizes in some groups.



With the above-explained strategy, we want to take advantage of two aspects of our dataset: we are able to cover all the observation period and to observe either one or more job interruptions. This allows the researcher to distinguish as well between voluntary and non-voluntary interruptions. Even so, when estimating wage changes through equation (1) we must mention two econometric problems that deserve further attention: unobserved individual heterogeneity and sample selection bias<sup>9</sup>.

Unobserved individual heterogeneity ( $\lambda_i$ ) arises when unobserved characteristics affect both labour market transitions and wage dynamics. Amongst these unobserved individual aspects we may encounter productivity, ability, job prospects in the firm, personal relationships and being in good terms with co-workers and supervisors, among many others. In both job search models (where workers with higher job prospects register longer tenure) and human capital models (where more stable workers accumulate more specific human capital, which makes them more productive and, accordingly, increase their wages), job tenure and experience are correlated with the unobserved heterogeneity that affects both job interruptions and future matches in the labour market. As a result of the correlation between observable and unobservable characteristics of the individuals, any OLS estimation would generate biased estimates for tenure and working experience (Altonji and Williams, 1997).

In order to check whether wage dynamics across stable and mobile workers are not affected by unobserved heterogeneity affecting simultaneously the probability of moving across jobs and productivity (and, hence, wages), we estimate the wage equation using intra-group differences (the fixed-effects approach in the panel data literature). In such estimation we eliminate the possible correlation between  $\lambda_i$  and  $X_{it}$  since we do not estimate wage levels, but differences between the wage level at time  $t$  and the average across the period. We thus compare individuals with themselves along the observation period. This strategy has been heavily used in the empirical literature on wage mobility, such as Jacobson *et al.* (1993) and Stevens (1997) using North American datasets, and Arulampalam (2001) and Gregory and Jukes (2001) for the British case<sup>10</sup>.

The intra-group estimation is a generalization of the so-called “differences-in-differences” technique, which requires information for both stable and mobile workers in two moments in time. This

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<sup>9</sup> There is an additional possible problem, namely the plausible endogeneity of our explanatory variable. This problem makes it impossible to distinguish whether the link between job mobility and wage dynamics is causal or whether there are intrinsic (observed and unobserved) features of individuals that influence both mobility and wages. The endogeneity problem, which has been tackled using both an instrumental variables approach (Altonji and Shakotko, 1987, and Topel, 1991) and structural estimations (Topel and Ward, 1992, Lillard, 1999, and Abowd and Kang, 2002) is quite difficult in our case, given that we deal with both direct and indirect – via two types of non-employment - job moves, and both voluntary and involuntary transitions, which extraordinarily hinders the search for instruments and the necessary restriction conditions to identify a structural model.

<sup>10</sup> The use of this technique stems from the literature on evaluation of active labour market policies, where a treated group is compared to a control (non treated) group.

particular requirement may generate the second econometric problem, namely, the sample selection bias, since we disregard observations of workers who, despite experiencing a job interruption, do not register wages either before or after it. In these cases we are not provided with the necessary two observations for being able to estimate a fixed-effects model. Should this problem not be tackled, the estimates would be, again, biased.

In order to solve this problem we have estimated a *probit* model using information of the first interview only where the dependent variable equals 1 if the individual is in the sample from the beginning of the survey and registers, at least, two observations of wages, and 0 otherwise. The Mills ratio has been drawn out of it, and finally, a selection Heckman term has been included in the wage equation in order to control for the plausible selection bias. Results in the estimation indicate that the error correction term is non significant and, therefore, the coefficients in the wage equation are not altered by any selection problem. We can thus conclude that we are working on a random sample. Arulampalam (2001) and Gregory and Jukes (2001) find similar results using this estimation technique.

## **5. Results from the multivariate models**

This section reviews the results of the multivariate empirical strategy explained in the previous one. Results correspond to different specifications of the wage equation (1) for each of the countries, for all the countries and for age groups. They are displayed in Tables 2 to 5.

All the estimations include personal and family characteristics (educational attainment, marital status, living with children, and labour market experience) as well as job-related characteristics (type of contract, job tenure, working week, occupational group) and employer-related characteristics (firm size, public/private sector, industry) as well as dummy variables for each wave and the national unemployment rate to control for the business cycle. For the sake of brevity we do not show the coefficients for all these control variables. We just will mention that they register the expected signs in all estimations: labour market experience and tenure pays (though it defines smaller differences for workers over 45 years old) in all countries. On the other hand, permanent contracts are linked to higher wages, as well as higher educational attainments. The latter is not homogenous across countries though.

### **5.1. The effect of unemployment and inactivity on wages**

The estimation in Table 2 is featured by dummy variables related to previous labour market status of employed interviewees, both inactivity (I) and unemployment (U). In this specification the effect of a

given labour market status is assumed to be constant and persistent effect along time, *ceteris paribus*. Results show that individuals who regain employment after an unemployment spell ( $E \rightarrow U \rightarrow E$ ) suffer a 4 per cent wage loss compared to individuals who either do not have any job interruption or move directly across jobs. Wage losses are more serious (about 9 per cent) for those who move across jobs but through inactivity ( $E \rightarrow I \rightarrow E$ ).

(Table 2 over here)

This result is consistent across countries, with the exception of the United Kingdom<sup>11</sup>, where the effect of inactivity spells is quite similar to that of unemployment spells. In France and Portugal wage losses related to inactivity are larger than in other countries (nearly 13 and 10 per cent respectively) whereas wage losses linked to unemployment spells are more intensive in Portugal and Italy (above 6 and 5 per cent, respectively).

In order to check whether this result is consistent across age groups, we have split the sample by age group and reproduced the same strategy. The results from such estimations (not shown but available upon request) show that both unemployment and inactivity spells scar future wages and that these scars are deeper if individuals move across jobs through inactivity. The trajectory labelled as  $E \rightarrow I \rightarrow E$  is related to a 6 per cent wage loss, which is relatively constant across age groups, whereas the trajectory type  $E \rightarrow U \rightarrow E$  has more negative implications for those over 30 years old.

## 5.2. Impact of the duration of the job interruption

We may also wonder whether transitions through unemployment and inactivity generate the same effect on wages regardless the duration in the non-employment spell. In order to study this nuance, Table 3 shows results when two variables indicating duration of the non-employment spells are included in the models. The reference group would be those individuals who remain with their employer. As non-employment spells get longer, subsequent wage losses increase. This wage loss may be (human capital models would argue) due to deterioration of specific human capital. The scarring effect is more intensive for individuals who stay longer in inactivity than in unemployment.

(Table 3 over here)

The effect of the duration of inactivity may be particularly intense in some countries, even though one needs to keep in mind that the number of observations in long inactivity-related

interruptions is fairly small. The same applies to long-term unemployment in Spain, France and the UK<sup>12</sup>. On the contrary, wage scars tend to be the same whatever the length in Germany, Italy and Portugal.

The estimations across age groups (not shown) end up in similar results to the ones commented in the above paragraph: wage losses are more sensitive to the duration of inactivity spells than to the duration of unemployment spells, though the latter is more relevant amongst over 45 year-olds.

### 5.3. Effects of time elapsed since the interruption and the cause of the interruption

We have also tried a specification that intends to find out whether the negative effects of non-employment transitions on wages observed previously are persistent along time. Accordingly, in Table 4 dummy variables referring to unemployment and inactive past spells have been interacted with time elapsed since such job interruptions.

Results show that workers who have moved across jobs through a recent (less than one year before the interview) unemployment spell register a 5 per cent wage scar, *ceteris paribus*. This outcome is relatively constant along time. Therefore it seems that the scarring effect of unemployment is not corrected with time. However, this result is not constant across countries and age groups. In Spain, Germany, Italy and Portugal, wage scars tend to increase with the elapsed time after the job interruption, whereas in the UK and in France wage losses tend to disappear with time (actually, after a year). When the estimation is replicated by age groups (results not shown), the negative impact of unemployment persists after 12 months only for 31-45 year-olds.

(Table 4 over here)

On the other hand, results tend to indicate that individuals who find a job after inactivity register increasing wage scars with time. The negative wage scar of inactivity spells on wage growth is 8 per cent if the interruption took place less than one year ago, and it doubles that figure if the interruption took place more than one year ago. This means that inactivity effects tend to persist and even aggravate with time, while unemployment effects tend to vanish with time. This result is particularly

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<sup>11</sup> Given that the difference between unemployment and inactivity statuses may be somehow blurred for the UK (as in Paull, 1997) we have joint in a single estimation transitions via unemployment and inactivity for the British sample. Job moves across non-employment generate a wage loss of 3-4 per cent. Results are not shown but available upon request.

<sup>12</sup> This result is in line with Gregory and Jukes (2001) and Nickell *et al.* (2002) for the UK, and Arranz and García-Serrano (2005) for Spain.

clear in Portugal and France. When we split the sample by age group, the effect is consistent across age groups and more pronounced amongst adults and middle aged.

Finally, Table 5 shows the results of a different nuance in the estimation: movements have been interacted with the reason for the last job to end, which turns up to be a very relevant difference to be taken into account. Individuals affected by voluntary labour interruptions experience, in average, relative wage increases of 3 per cent when they re-enter employment. On the contrary, those who were dismissed or whose employment contract finished experience a 4-5 per cent wage loss. Those who leave their job due to other reasons register a similar effect.

(Table 5 over here)

These are the results for Portugal and at a lower extent, for Germany, Spain and France. In the latter countries, voluntary job moves do not seem to favour relevant wage gains. In Italy voluntary employment interruptions have a positive effect on wages, but all other types of reasons for moving across jobs do not show significant effects. Finally, in the UK, not even voluntary transitions seem to have a positive effect on wages.

In the estimations by age group (not shown), results are quite similar to those above explained. In any case, it seems that dismissals are related to deeper wage scars for those below 45 years old, whereas the end of a temporary contract has more intensive effects on those over 45.

## **6. Conclusions**

This paper has analysed the links between labour market transitions and wage changes experienced by men in several countries of the European Union, during seven consecutive years (1995-2001) with data coming from the ECHP. The question addressed has been whether employment transitions affect wage dynamics and, if so, to what extent. To accomplish this, we have studied male wage earners in Germany, Spain, Italy, France, Portugal and the UK. Here we summarise the main results and offer an employment policy conclusion.

First of all, workers who experience an employment interruption and go through an unemployment or inactivity spell between two jobs, suffer relative wage losses when they re-enter employment. Wage losses are more intensive when job interruptions imply an inactivity spell than when they are related to unemployment. This is the case in all the countries of our study except in the UK, where the effect of both types of transitions is similar and very small.

Secondly, the scarring effect of non-employment spells on wages is larger the longer the non-employment spells are, particularly in France, the UK and Spain. All the same, the scarring effect worsens more with time for inactivity spells than for unemployment spells.

Thirdly, the negative effect of unemployment on the evolution of re-entry wages is temporary among workers in the UK and France, and tends to vanish after one year in the new job. However, in other countries, namely, in Spain, Germany, Italy and Portugal, this effect is more persistent, since wage scars tend to become more intensive with time. This is a common result for all age groups, although the losses are more serious for those aged between 30 and 45.

Finally, as regards the level of willingness in the labour market transition, individuals who experience voluntary transitions tend to register wage gains in their new jobs, although this is significant only in Italy and Portugal. On the other hand, dismissed employees or those whose employment contracts came to an end register wage losses.

Our empirical analysis does not allow us to disentangle whether the wage losses linked to observed labour market transitions are due to a deterioration or obsolescence of human capital or to a loss of contacts in the labour market, which would reduce the probability of finding a good match in the labour market. Both factors are, indeed, relevant, and generate a scarring effect of job interruptions on employment careers. Employment policies should be targeted at avoiding both circumstances. On the one hand, reducing the duration of non-employment spells through a better connection of supply and demand in the labour market is needed. On the other hand, retraining programmes could help to recover the losses in human capital during the employment interruption.

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## Appendix

**Table A.1.** Average composition of several groups of workers, according with their prior situation in the labour market. ECHP, 1995-2001.

		<i>Mobility</i>		<i>Prior LM status</i>		
	<i>Total</i>	<i>Stayers</i>	<i>Movers</i>	<i>Employed</i>	<i>Unemployed</i>	<i>Inactive</i>
	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>
<b>Age (years)</b>	40.6	41.9	38.2	40.9	34.9	31.2
<b>Squared age</b>	1741.7	1834.8	1583.0	1768.2	1319.3	1070.1
<b>Age groups</b>						
18-25	0.063	0.026	0.126	0.053	0.203	0.387
26-30	0.115	0.083	0.168	0.110	0.205	0.201
31-35	0.160	0.152	0.174	0.160	0.174	0.134
36-40	0.168	0.185	0.138	0.170	0.133	0.099
41-45	0.158	0.187	0.109	0.162	0.106	0.059
46-50	0.147	0.177	0.095	0.151	0.074	0.042
>50	0.188	0.189	0.187	0.193	0.101	0.075
<b>Main job</b>						
Full-time	0.985	0.990	0.977	0.987	0.959	0.938
Part-time	0.009	0.005	0.016	0.008	0.031	0.038
Missing values	0.006	0.005	0.008	0.006	0.010	0.024
<b>Type of employer</b>						
Private	0.735	0.684	0.821	0.729	0.850	0.822
Public	0.261	0.314	0.171	0.268	0.122	0.170
Missing values	0.004	0.002	0.008	0.003	0.028	0.008
<b>Marital status</b>						
Married	0.699	0.765	0.587	0.713	0.463	0.351
Non married	0.301	0.235	0.413	0.286	0.537	0.647
Missing values	0.001	0.001	0.001	0.001	0.000	0.002
<b>Type of contract</b>						
Permanent	0.889	0.960	0.767	0.916	0.329	0.582
Temporary	0.076	0.021	0.171	0.054	0.547	0.293
Casual jobs. no contract	0.009	0.005	0.015	0.007	0.036	0.042
Other types of employment	0.011	0.004	0.022	0.009	0.041	0.024
Missing values	0.015	0.010	0.024	0.013	0.047	0.059
<b>Education</b>						
ISCED 5-7	0.229	0.222	0.241	0.231	0.149	0.343
ISCED 3	0.324	0.341	0.296	0.326	0.289	0.283
ISCED 0-2	0.439	0.432	0.450	0.436	0.546	0.315
Missing values	0.008	0.005	0.012	0.007	0.015	0.059
<b>Unemployment rate</b>	8.146	8.196	8.060	8.115	8.953	7.990
<b>Countries</b>						
France	0.190	0.210	0.156	0.193	0.115	0.198
Italy	0.179	0.202	0.139	0.180	0.174	0.100
Spain	0.156	0.146	0.174	0.149	0.342	0.155
Portugal	0.171	0.168	0.176	0.171	0.169	0.228
Germany	0.202	0.201	0.204	0.204	0.172	0.167
UK	0.102	0.073	0.150	0.104	0.028	0.153

Table A.1. (cont.)

	<i>Total sample</i>	<i>Mobility</i>		<i>Prior LM status</i>		
		<i>Stayers</i>	<i>Movers</i>	<i>Employed</i>	<i>Unemployed</i>	<i>Inactive</i>
	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>	<i>Average</i>
<b><i>Reason for leaving job</i></b>						
Stayers	0.918	0.995	0.786	0.967	0.006	0.000
Voluntary transition	0.023	0.002	0.060	0.021	0.064	0.048
Individual dismissal	0.016	0.001	0.040	0.005	0.273	0.056
End of contract	0.023	0.001	0.060	0.006	0.417	0.083
Collective dismissal	0.001	0.000	0.002	0.000	0.012	0.005
Other reasons	0.011	0.001	0.028	0.001	0.104	0.481
Missing values	0.009	0.001	0.023	0.000	0.124	0.325
<b><i>Children &lt;12 years</i></b>						
One or more	0.373	0.407	0.315	0.377	0.300	0.289
None	0.627	0.593	0.685	0.623	0.700	0.711
Missing values	0.000	0.000	0.000	0.000	0.000	0.000
<b><i>Children 12-15 years</i></b>						
One or more	0.107	0.119	0.085	0.107	0.097	0.081
None	0.893	0.881	0.914	0.892	0.902	0.919
Missing values	0.000	0.000	0.000	0.000	0.001	0.000
<b><i>Occupation<sup>(1)</sup></i></b>						
1	0.053	0.052	0.056	0.055	0.017	0.058
2	0.100	0.102	0.096	0.102	0.051	0.130
3	0.130	0.137	0.118	0.131	0.079	0.152
4	0.113	0.125	0.093	0.115	0.072	0.114
5	0.072	0.077	0.065	0.072	0.089	0.084
6	0.013	0.010	0.017	0.012	0.026	0.024
7	0.265	0.251	0.289	0.264	0.322	0.188
8	0.148	0.149	0.147	0.149	0.143	0.131
9	0.081	0.073	0.095	0.077	0.178	0.097
10	0.024	0.025	0.023	0.024	0.023	0.023
<b><i>Industry<sup>(2)</sup></i></b>						
1	0.020	0.019	0.023	0.019	0.039	0.039
2	0.028	0.032	0.021	0.029	0.016	0.010
3	0.160	0.162	0.156	0.161	0.128	0.130
4	0.056	0.060	0.048	0.057	0.027	0.039
5	0.085	0.091	0.075	0.087	0.058	0.072
6	0.118	0.085	0.174	0.111	0.288	0.108
7	0.119	0.112	0.130	0.117	0.142	0.173
8	0.077	0.072	0.085	0.077	0.070	0.089
9	0.088	0.081	0.099	0.088	0.058	0.162
10	0.230	0.268	0.166	0.234	0.149	0.171
11	0.019	0.017	0.024	0.019	0.024	0.008
<b><i>Size of the employer</i></b>						
1-4 workers	0.094	0.077	0.124	0.091	0.160	0.158
5-19 workers	0.168	0.142	0.212	0.161	0.334	0.223
20-49 workers	0.157	0.151	0.167	0.155	0.189	0.174
50-99 workers	0.117	0.119	0.113	0.118	0.100	0.103
100-499 workers	0.146	0.155	0.130	0.148	0.084	0.135
500 or more workers	0.112	0.113	0.112	0.114	0.064	0.113
Missing values	0.203	0.241	0.139	0.210	0.067	0.091

Table A.1. (cont.)

<b>Prior status</b>						
Employed	0.949	1.000	0.866	1.000	0.000	0.000
Unemployed	0.038	0.000	0.101	0.000	1.000	0.000
Inactive	0.013	0.000	0.033	0.000	0.000	1.000
Missing values	0.000	0.000	0.000	0.000	0.000	0.000
<b>Tenure in previous job (days)</b>	3843.2	4976.4	1911.1	4042.3	178.0	183.2
<b>Previous unemployment spell (months)</b>	15.1	0.0	15.5	0.0	15.1	0.0
<b>LM experience (years)</b>	22.2	23.4	20.1	22.4	18.2	15.7
<b>Hourly gross wage (deflated)</b>	9.99	10.19	9.09	10.15	6.55	7.91
<b>Hourly net wage (deflated)</b>	7.60	8.03	6.88	7.72	5.20	6.11
<b>Observations</b>	56,759	35,775	20,984	53,833	2,183	730

(1) *Occupation*: 1. Legislators, senior officials and managers; 2. Professionals; 3. Technicians and associate professionals; 4. Clerks; 5. Service workers and shop and market sales workers; 6. Skilled agricultural and fishery workers; 7. Craft and related trades workers; 8. Plant and machine operators and assemblers; 9. Elementary occupations; 10. Missing values.

(2) *Industry*: 1. Agriculture, hunting and forestry + Fishing; 2. Mining and quarrying + Electricity, gas and water supply; 3. Manufacture of food products, beverages and tobacco; Manufacture of textiles, clothing and leather products; Manufacture of wood and paper products; Publishing and printing; Other manufacturing; 4. Manufacture of coke, refined petroleum/chemicals/rubber & plastic/etc.; 5. Manufacture of metal products, machinery and equipment n.e.c.; 6. Construction; 7. Wholesale and retail trade; Repair of motor vehicles, motorcycles and personal/household goods; Hotels and restaurants; 8. Transport, storage and communication; 9. Financial intermediation; Real estate, renting and business activities; 10. Public administration and defence; Compulsory social security; Education; Health and social work; Other community, social and personal service activities; Private households with employed persons; Extra-territorial organizations and bodies; 11. Missing values.

**Table 1.** Average year-in-year wage increases, by age groups and countries. ECHP, 1995-2001.

	Age groups				Countries					
	All	18-30	31-45	>45	Germany	Spain	France	Italy	Portugal	UK
Total sample	1.08	1.12	1.08	1.07	1.07	1.09	1.10	1.05	1.10	1.08
<b>Mobility</b>										
Stayers	1.07	1.10	1.07	1.07	1.06	1.08	1.10	1.05	1.09	1.07
Movers	1.10	1.13	1.09	1.07	1.09	1.10	1.12	1.06	1.12	1.09
<b>Prior LM status</b>										
Employed	1.08	1.12	1.08	1.07	1.07	1.09	1.10	1.05	1.10	1.08
Unemployed	1.08	1.11	1.09	1.03	1.08	1.11	1.07	1.03	1.06	1.09
Inactive	1.12	1.17	1.11	1.01	1.15	1.10	1.13	1.11	1.13	1.08
<b>Reason for leaving prev. job</b>										
Voluntary(E→E)	1.16	1.21	1.16	1.15						
Dismissal	1.07	1.03	1.05	1.08						
End of contract	1.09	1.12	1.07	1.05						
Other reasons	1.14	1.17	1.12	1.00						
<i>Age groups</i>										
18-30 years					1.15	1.12	1.13	1.07	1.13	1.12
31-45 years					1.07	1.09	1.10	1.05	1.09	1.08
>45 years					1.05	1.07	1.09	1.04	1.09	1.07

**Table 2.** Wage regressions (on log of hourly gross wage), by country. ECHP, 1995-2001.

	<i>All</i>			<i>Germany</i>			<i>Spain</i>			<i>France</i>			<i>Italy</i>			<i>Portugal</i>			<i>UK</i>			
	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sign.</i>	
<b>Type of contract</b>																						
Permanent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temporary	-0.029	0.004	***	-0.054	0.010	***	-0.046	0.009	***	-0.009	0.012		-0.046	0.011	***	-0.014	0.010		-0.063	0.024	***	
Casual job. no contract	-0.038	0.010	***	0.021	0.015		-0.109	0.035	***				-0.042	0.018	**	-0.038	0.019	**	-0.168	0.036	***	
Other arrangements	-0.041	0.010	***				-0.079	0.020	***				0.011	0.019		-0.040	0.013	***				
<b>Education attainment</b>																						
ISCED 5-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISCED 3	-0.017	0.005	***	-0.026	0.010	***	0.006	0.012		-0.017	0.016		-0.022	0.030		-0.135	0.025	***	0.011	0.011		
ISCED 0-2	-0.005	0.006		-0.078	0.014	***	-0.011	0.014		-0.032	0.017	**	-0.035	0.030		-0.147	0.026	***	0.004	0.013		
<b>Tenure in previous job</b>																						
<1 year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-2 years	0.031	0.004	***	0.019	0.008	***	0.027	0.012	***	0.001	0.012		0.010	0.012		0.010	0.011		0.026	0.010	***	
2-3 years	0.087	0.005	***	0.076	0.009	***	0.046	0.015	***	0.069	0.014	***	0.068	0.014	***	0.032	0.013	***	0.045	0.011	***	
3-5 years	0.139	0.005	***	0.139	0.008	***	0.082	0.016	***	0.115	0.014	***	0.082	0.013	***	0.068	0.013	***	0.064	0.012	***	
5-10 years	0.242	0.006	***	0.227	0.010	***	0.090	0.021	***	0.221	0.017	***	0.160	0.016	***	0.135	0.016	***	0.096	0.017	***	
10-15 years	0.367	0.007	***	0.329	0.013	***	0.104	0.029	***	0.329	0.021	***	0.245	0.020	***	0.209	0.021	***	0.135	0.026	***	
15-20 years	0.478	0.009	***	0.405	0.017	***	0.123	0.037	***	0.454	0.025	***	0.298	0.024	***	0.264	0.026	***	0.138	0.036	***	
>20 years	0.592	0.011	***	0.507	0.018	***	0.109	0.044	***	0.555	0.029	***	0.371	0.027	***	0.326	0.030	***	0.159	0.044	***	
<b>LM experience</b>																						
<5 years	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-10 years	0.077	0.006	***	0.073	0.013	***	0.103	0.017	***	0.024	0.013	**	0.036	0.012	***	0.068	0.013	***	0.120	0.016	***	
10-15 years	0.131	0.007	***	0.144	0.016	***	0.122	0.023	***	0.081	0.014	***	0.076	0.016	***	0.105	0.018	***	0.178	0.023	***	
15-20 years	0.181	0.008	***	0.184	0.018	***	0.140	0.029	***	0.108	0.015	***	0.153	0.020	***	0.139	0.023	***	0.251	0.028	***	
20-30 years	0.221	0.009	***	0.230	0.020	***	0.122	0.034	***	0.145	0.017	***	0.201	0.022	***	0.172	0.027	***	0.259	0.033	***	
>30 years	0.258	0.011	***	0.257	0.023	***	0.131	0.038	***	0.174	0.019	***	0.228	0.025	***	0.182	0.030	***	0.277	0.038	***	
<b>Prior status</b>																						
Unemployed	-0.045	0.006	***	-0.034	0.011	***	-0.038	0.013	***	-0.035	0.016	**	-0.055	0.014	***	-0.067	0.014	***	-0.033	0.025		
Inactive	-0.087	0.008	***	-0.063	0.016	***	-0.048	0.025	**	-0.133	0.018	***	-0.055	0.023	***	-0.103	0.017	***	-0.034	0.019	*	

(a) Other control variables are: private or public employer, weekly hours, marital status, children under 12 years old, children 12-15 years old, firm-size, industry, occupational group, dummy variables for calendar effects and national unemployment rates.

(b) Education attainment, type of contract y labour market experience register missing values that have been included as additional categories in order to capture their trends/behaviour. Coefficients are not reported in the table.

(c) \*\*\* indicates p value < 0.001, \*\* indicates p value < 0.05, and \* indicates p value < 0.01.

**Table 3.** Wage regressions and previous non employment spells duration, by country. ECHP, 1995-2001.

	<i>All</i>			<i>Germany</i>			<i>Spain</i>			<i>France</i>			<i>Italy</i>			<i>Portugal</i>			<i>UK</i>			
	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	
<i>Time in previous unemployment</i>																						
0-12 months	-0.055	0.007	***	-0.081	0.017	***	-0.037	0.013	***	-0.037	0.021	*	-0.064	0.016	***	-0.069	0.015	***	-0.063	0.028	***	
>12 months	-0.042	0.009	***	-0.085	0.014	***	-0.052	0.020	***	-0.095	0.052	*	-0.053	0.018	***	-0.064	0.023	***	-0.088	0.054	*	
<i>Time in previous inactivity</i>																						
0-12 months	-0.081	0.008	***	-0.071	0.017	***	-0.059	0.025	**	-0.119	0.020	***	-0.046	0.024	**	-0.098	0.017	***	-0.050	0.020	***	
>12 months	-0.274	0.064	***	-0.740	0.183	***	0.060	0.233		-0.303	0.132	**	-0.036	0.171		-0.745	0.186	***	-0.179	0.109	*	

Notes: see Table 2.

**Table 4.** Wage regressions and time since re-employment, by country. ECHP, 1995-2001.

	<i>All</i>			<i>Germany</i>			<i>Spain</i>			<i>France</i>			<i>Italy</i>			<i>Portugal</i>			<i>UK</i>			
	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	
<i>Time in employment. coming from unemployment (U→E)</i>																						
0-12 months	-0.046	0.006	***	-0.030	0.012	***	-0.044	0.013	***	-0.044	0.017	***	-0.053	0.015	***	-0.070	0.015	***	-0.054	0.027	**	
>12 months	-0.051	0.017	***	-0.065	0.034	**	-0.054	0.030	*	0.020	0.057		-0.067	0.039	*	-0.086	0.036	***	0.074	0.190		
<i>Time in employment. coming from Inactivity (I→E)</i>																						
0-12 months	-0.081	0.009	***	-0.069	0.018	***	-0.059	0.026	***	-0.130	0.022	***	-0.050	0.024	**	-0.102	0.019	***	-0.031	0.022		
>12 months	-0.146	0.021	***	-0.039	0.072		0.033	0.099		-0.153	0.031	***	-0.091	0.073		-0.132	0.048	***	-0.097	0.052	*	

Notes: see Table 2.

**Table 5.** Wage regressions and reason for leaving job, by country. ECHP, 1995-2001.

	<i>All</i>			<i>Germany</i>			<i>Spain</i>			<i>France</i>			<i>Italy</i>			<i>Portugal</i>			<i>UK</i>			
	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.</i>	
<i>Reason for leaving previous job</i>																						
Voluntary	0.024	0.008	***	-0.038	0.064		0.014	0.024		-0.027	0.023		0.050	0.020	***	0.045	0.020	***	0.008	0.016		
Individual/collective dismissal	-0.035	0.008	***	-0.027	0.013	**	-0.040	0.037		-0.048	0.024	**	-0.013	0.021		-0.064	0.025	***	-0.014	0.021		
End of contract	-0.046	0.007	***	-0.083	0.018	***	-0.044	0.022	**	-0.066	0.022	***	-0.008	0.021		-0.038	0.021	*	0.038	0.035		
Other reasons	-0.038	0.009	***	-0.030	0.015	**	-0.054	0.030	*	-0.050	0.032		0.028	0.026		-0.052	0.022	**	-0.055	0.024	***	
Missing values	-0.111	0.010	***	-0.108	0.023	***	-0.104	0.029	***	-0.154	0.027	***	-0.059	0.020	***	-0.135	0.023	***	-0.005	0.039		

Notes: see Table 2



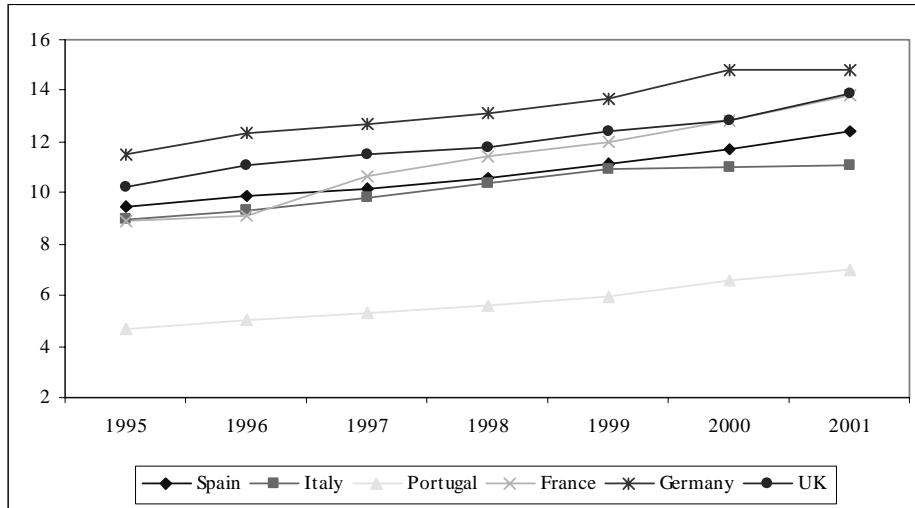


Figure 1. Evolution of hourly gross wages amongst stayers, by country. ECHP, 1995-2001.

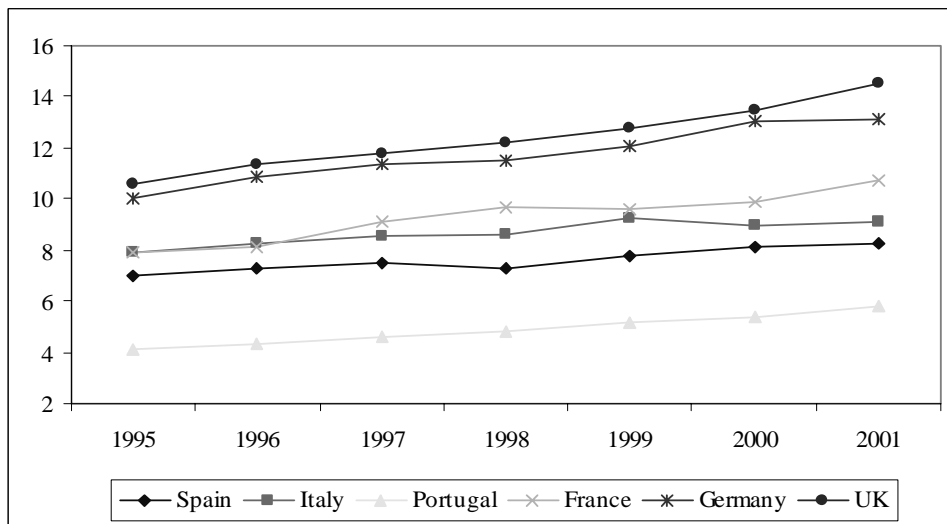


Figure 2. Evolution of hourly gross wages amongst movers, by country. ECHP, 1995-2001.

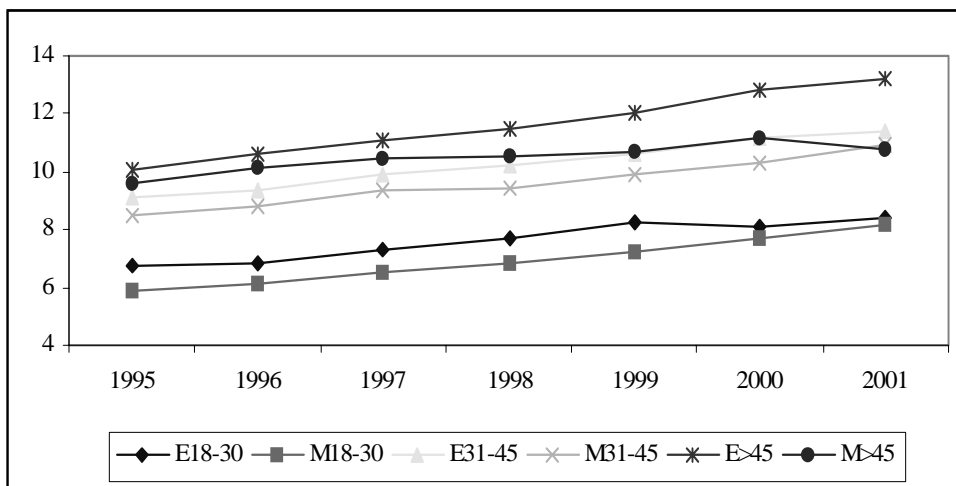


Figure 3. Evolution of hourly gross wages for stayers (E) and movers (M), by age groups (18-30, 31-45 and >45 years). ECHP, 1995-2001.