

Finding a suitable job:
The effect of the institutional context over
Self-perceived overeducation

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INTRODUCTION¹

The transition to adulthood was seemingly easy and clear-cut after the II World War. Both finishing studies and getting access to the labour market were well-defined milestones in the life history of the individual. The advent of post-industrial societies, with the leading role of services in the economy, and more specifically in employment creation, has been accompanied by labour market flexibility and an increasing importance of credentials for individual labour market performance. Post-industrial societies are thus characterized by long and complex transitions to adulthood (Baizan, 2003). Finding a job suitable to the formation received is part of this transition. Besides its interest for life-course analyses, job mismatch has economic and social implications. Either a great amount of individual and social resources may be wasted, in case of overeducation, or the tasks may be underperformed, in case of undereducation. Moreover, overeducation has been found to be associated with low productivity and job satisfaction (Tsang & Levin, 1985)

If the transition to adulthood has become more complex, there has also been an increasing availability of data to study it. A cross-national comparative study of this transition requires a panel survey that allows comparing incipient labour market trajectories in different countries. US, Canada and Germany have surveys of this kind, with a long enough trajectory, but they lack the necessary comparability. The European Community Household Survey (ECHP) has a much shorter span (eight years) but it does have this comparability, since the same questions were formulated in different countries.

The current work thus resorts to the ECHP in order to explore how institutional contexts affect the likelihood of feeling overeducated in relation to the main job carried out by the individual. More specifically, it provides evidence that it is not just the system of education that is to be blamed for the existence of overeducation, but also the regulation of labour market. After revising the theories that have addressed the issue of job mismatch and overeducation, the systems of education and labour market regulation in the countries selected for the study are analysed. The data and methods are then presented, including a discussion of the indicator used to measure overeducation. The next section shows the results of the multivariate analysis, and the last one presents a discussion of the relevance of these results for the theoretical framework and, more specifically, for the effects of national institutions over the perception of overeducation.

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THEORETICAL FRAMEWORK

Different economic theories have attached more or less importance to overeducation, considering it a more or less stable phenomenon. For Human Capital Theory, job mismatch is a negligible phenomenon. The market would naturally correct any mismatch between offer and demand of qualifications. For Occupational Mobility Theory, “part of the return to education is in the form of a higher probability of occupational upgrading, within or across firms” (Sicherman & Galor, 1990: 170-171). Occupational Mobility Theory acknowledges the importance of job mismatch, being especially interested in how workers correct it: through internal mobility (promotion) or external mobility (job change) (Sicherman & Galor, 1990; Sicherman, 1991). This theory predicts a positive effect of overeducation on expected promotions and job change. According to Job Competition Theory, job mismatch could be a more stable phenomenon. This theory highlights the role of jobs, instead of workers, as the origin of underemployment and overeducation: employers hire the candidate that implies less additional training costs to perform her job optimally (Rosen, 1972; Thurow, 1975; Spence, 1974; Sorensen & Kalleberg, 1981). Training should then be understood as an asset that locates individuals in a queue. Thus, overeducation could be advantageous for the individual, but it does not guarantee that her job matches her qualification. Credentialism attaches an even higher importance to credentials: education does not matter substantively, for the qualification it provides; it matters for the signals it sends to the labour market. Credentials signal individuals positively or negatively in the labour market.

Credentialism, Job Competition and Occupational Mobility are economic approaches to the relationship between training and employment. They share a common interest for the duration of job mismatch. Properly testing these theories would almost necessarily involve a duration analysis. The current research is not as interested in the duration of job mismatch, or its effect over employment opportunities, as in the factors that favour its existence. For this reason, Credentialism and Job Competition Theory will deserve less attention than the mechanisms to overcome job mismatch mentioned by Occupational Mobility Theory.

These latter theories also have some limitations in common. First, they assume a static relationship between both phenomena. Time may change this relationship, though: a given occupation may have different skill requirements in different points in time. As it will be seen, some methodologies bear in mind the dynamic character of this relationship. Second, economic approaches to the relationship between education and work usually miss the mediating role of institutions. However, the validity of the rules stated by these theories is strongly conditioned by the institutional framework where they are located (Müller & Gangl, 2003; Wolbers, 2002; Shavit & Müller, 1998). Two institutional clusters could make a difference in this respect: the educational system and the labour market regulation. They are located at the beginning and end of the transition from education to work.

System of education

Allmendinger (1989) classified systems of education according to their degree of standardization and stratification. Standardization marks the homogeneity of the degrees

at a given level throughout a given State. The deeper the standardization of an educational system, the higher the confidence of employers' in the quality certified by a given degree. Stratification is related to the degree of hierarchy and segmentation of the system. The higher the number of tracks of the educational system, and the more difficult it is to cross the barriers between them, the more stratified is the educational system. Allmendinger concluded that a high standardization and stratification contributes to a better matching between offer and demand of qualifications at an aggregate level.

Müller & Shavit fit some of Allmendinger's types with the 'organizational' and 'qualificational' spaces designed by the Societal Effect approach (Maurice, Sellier & Silvestre, 1982). In an 'organizational space' less attention is paid to vocational training and a perfect match between qualifications and task performed at the workplace. It is assumed that employers will make an additional investment in their employees' human capital, in order to make them match. Conversely, in a 'qualificational' space, like the German or Danish ones, special attention is paid to vocational training and the perfect match between qualifications drawn from the educational system and the actual task requirements at the workplace. The 'qualificational space' would somehow correspond to a high degree of standardization and stratification of the educational system, and would yield a less problematic integration of youth into the labour market².

It will be in 'organizational spaces', then, where the Job Competition Theory would have a stronger explanatory power. Given an imperfect adjustment between skills and tasks performed within the occupation, employers would consider how *less additional investment in human capital* they have to do in order to attain an optimal performance amongst their employees.

Labour market regulation

The *joint* effect of labour market regulation and educational system on the transition from education to work has already been explored (Ianelli & Soro Bonmatí, 2000; Gangl, 2000; Müller & Gangl, 2003). Comparing Italy and Spain, Ianelli and Soro-Bonmatí (2001) show that it is not just the extraordinary expansion of the educational system what explains the difficulties of the Spanish youth to get access to the labour market, compared with Italian people of the same age and circumstances, but the widespread use of temporary contracts and the increasing segmentation of the labour market that lies behind. But these authors just focus in the unemployment and precarious employment spells frequently suffered by many young Spaniards; they do not pay attention to the matching between training and the main task performed by the individual.

The current research is guided by the idea that the responsibility for the job skill mismatch lies not just on the educational system, but also on the regulation of the labour market. It will then be necessary to compare countries with similar educational systems, as regards their degree of standardization and stratification, and different labour market

² It should be born in mind, though, that 'qualificational spaces' correspond to countries, like Germany, Denmark or Austria, that, at least till recently, have usually shown more favourable macroeconomic conditions (Gangl, 2000). It is difficult to know, first, if these macroeconomic conditions accounts for the easier entry of youth into the labour market more than the characteristics of their respective systems of education; second, to what extent macroeconomic conditions and systems of education are interrelated.

regulation. Such is the case of France, Italy and Spain. Denmark will be included in the analysis as a contrast in this respect.

The likelihood of finding a job suiting the training received throughout the period of full-time education is supposed to be lower in countries with generalist systems of education. Keeping the type of educational system constant, though, the incidence of job mismatch could diverge depending on labour market regulation. Temporary employment is usually regarded as stepping stone in the labour market career of the individual. As such, it should not be highly associated with overeducation. But the existence of a segmented labour market could imply a different logic. Workers in the secondary segment of the labour market might be less likely to enjoy human capital investment from their employers and progressively adequate the job they perform to their initial training; conversely, workers in the primary segment of the labour market have both a higher probability of receiving further training and of attaining a job match. Moreover, given their job security, workers in the primary segment of the labour market could be *undereducated*. In sum, overeducation may be more prevalent in the secondary segment of the labour market and undereducation, more prevalent in the primary segment.

EDUCATIONAL SYSTEMS AND LABOUR MARKET REGULATION IN SELECTED COUNTRIES

Educational systems

Amongst the European countries, a clear division could be made between those that have traditionally set up a formalized system of vocational education, with a clear occupational orientation and a system of apprenticeship at the workplace (Germany, Austria, Denmark, Luxembourg and The Netherlands) and those where “occupation-specific education was less common, hardly existed at all, or did not have a similarly prominent degree of occupational professionalism” (France, Belgium, Italy or Spain). In these latter countries “allocation of children to different tracks takes place –if at all- as late in the education process as possible, usually not before the end of the tenth school year, and is often connected with the transition from the lower to the upper level of secondary education” (Müller & Wolbers, 2000: 27-28). The preference for “theoretical, abstract knowledge over practical and utilitarian work abilities” usually turns vocational training into “second- or third-best alternative to general education” (Ibid: 29). It also makes vocational training very much school-based, with very limited experience in the workplace. The lack of a deep, strong system of apprenticeship makes paradoxically easier the study of the transition from school to work here³. With slight differences between them, France, Italy and Spain belong to this latter group⁴.

³ Couppié & Mansuy acknowledge the existence of “transitory intermediate statuses” in the transition from school to work. In these statutes, work and training are combined, so that it is difficult to attribute a role to the individual. Yet, they differentiate two groups of countries, according to the higher or lower incidence of these statutes. France and the Mediterranean countries are characterized by the low incidence of them, which does not surpass the 10% of individuals. Therefore, they do not involve a major problem in the analysis of the transition from School to Work in the countries that are to be selected for the current analysis: France, Italy and Spain (Couppié & Mansuy, 2000).

⁴ Britain and, to a lesser extent, Ireland belong to a third type, characterized by its low level of standardization: regional diversity, the importance of private educational institutions and the traditional main role of civil society in organizing and providing an educational choice has generated a wide range of

Cross-national differences between these countries are more relevant as regards tertiary education. Germany, The Netherlands, Denmark, Norway, and, to some extent, Austria and Switzerland, have a system of tertiary education characterized by its “parallel segmentation”: along with the more formal, theory- and research-oriented network of universities, there is a parallel network of higher education institutions providing degrees “strongly oriented towards application, practice and occupational identities” (Müller & Wolbers, 2000: 33). Unlike this, French and Spanish systems of tertiary education are characterized by its “sequential segmentation”: the university system is homogeneously divided in hierarchical segments (“cycles”) corresponding respectively to a lower, a higher, and a post-graduate university degree: “access to the next higher cycle is dependent on successful completion of the preceding one” (Müller & Wolbers, 2000: 33; Albert et al., 2004)⁵. Italy does not belong to the former group, but, although lower university degrees were introduced, both the number of universities providing them and variety of degrees are lower than in Spain or France (Ianelli & Soro-Bonmatí, 2001). There are other differences between Italy, on the one hand, and France and Spain, on the other hand. First, Italian universities do not rely in the marks obtained at upper-secondary education, in order to grant access to some university centres. Second, there is not a connection between the kind of secondary education the individual has completed (Humanities, Sciences...) and the kind of career she is allowed to undertake (Ianelli & Soro Bonmatí, 2001: 4-5). Finally, the very few restrictions to access to the university system are combined in Italy with a high dropout rate (Brunelli et al., 2000). The absence of different university cycles, graduating the human capital investment in higher education, also contributes to this dropout rate⁶.

Labour market regulation

If the selected countries show quite similar systems of education, their labour market regulations diverge (Siebert, 1997). Labour market regulations seem to be more open to “flexibility at the margin” in Spain than in Italy or France. The level of fixed-term employment in Spain clearly stands out in relation to France and Italy. Although the level is much lower in these latter countries, France experienced, along with Netherlands and Greece, a steady increase throughout the 1980s and early 1990s. Italy showed a much more stable scenario (see table 1, below).

1. Spain

experiences and opportunities. Students specialize quite early and “there is not even a well-defined concept of graduating from the secondary level; instead, performance in the individual specialization areas on that level determines opportunity of access to various institutions and programmes at the tertiary level” (Müller & Wolbers, 2000: 28).

⁵ As it happens in the secondary education, Britain constitutes a third distinctive model, characterized by a wide variation in the criteria and requirements of access to tertiary education, the existence of former institutions of Further Education (Polytechnic Universities), somehow similar to the *Fachhochschulen*, that have been recently integrated in the British university system, and an increasing modularisation. The Irish system has many similarities to the British one, “with fewer opportunities for vocational training” and more importance attached to general education, though (Müller and Wolbers, 2000).

⁶ This could mean that many post-secondary, pre-university graduates are actually individuals who have made a long investment in human capital that has not reached the attainment of a university degree. Italian employers might be sensitive to this non-completed university education. If such is the case, neither objective nor subjective overeducation could be as high as expected.

During the 1970s and early 1980s unemployment in Spain soared, reaching a peak of almost 25% of the workforce in 1985. Faced with such a problem, the newly elected Socialist Workers' Party (PSOE) introduced in 1984 the first of a set of reforms that strongly deregulated the Spanish labour market and were aimed at fostering employment growth. The 1984 reform allowed fixed-term employment for specific reasons (Toharia & Malo, 2000: 307-309). "Some of these reasons, however, could be interpreted very broadly", so that the law actually worked as an incentive for the generation of temporary employment. In 1988 the PSOE launched a 'youth employment programme' that introduced cheaper contracts for people under 25 without prior job experience (Toharia & Malo, 2000: 309). As a result of all these measures, Spain experienced the steepest growth of temporary employment in Europe: from 15% of total employment in 1987 to 35% in 1995 (Schömann, Rogowski & Kruppe, 1998: 83). Only in the mid 1990s, policy makers began noticing the adverse consequences of it. In 1997 a further labour market reform was approved, including a new 'indefinite contract', less secure than the old permanent ones, and introducing incentives for the conversion of fixed-term contracts into permanent ones (Toharia & Malo, 2000: 310-311). Even so, Spain is still today the country with the largest share of temporary employment in Europe: over 30% of its dependent employment.

Table 1. Fixed-term employment as percentage of total dependent employment					
	Denmark	Spain	France	Italy	Eur.12
1983	--	--	2.4	6.6	--
1984	9.1	--	2.3	5.0	--
1985	8.5	--	3.7	4.8	--
1986	7.4	--	5.4	4.5	--
1987	6.4	15.7	6.1	5.3	7.4
1988	6.6	22.5	6.8	5.8	8.1
1989	5.7	26.7	7.5	6.3	8.6
1990	6.9	30.0	9.5	5.2	9.0
1991	8.0	32.4	9.2	5.4	9.0
1992	8.0	33.5	9.7	7.4	9.7
1993	7.7	32.1	10.1	5.9	9.3
1994	8.9	33.6	10.2	7.2	9.8
1995	8.8	35.0	11.6	7.1	10.3
1996	7.7	33.6	11.8	7.4	10.4

Source: Eurostat European Labour Force Survey ; Schömann, Rogowski & Kruppe's calculations (1998)

2.Italy

As it happened in Spain till the 1980s, the Italian labour law in some cases dates back from the Mussolini period, entailing serious restrictions to both individual and collective dismissals. The permanent contract is the norm. These restrictions were reinforced in the 1960s and 1970s (Schömann, Rogowski & Kruppe, 1998: 48-50). The importance of small firms, where the constraints of the law are lower; non-dependent labour; black economy and "social shock absorbers", as the Wage Supplement Fund (see below), conferred the Italian economy the flexibility required to face economic crisis and uncertainty during the 1970s (Samek Lodovici, 2000). It also qualifies strongly an assessment of Italian labour market as 'rigid'.

Growing international competition, together with declining union power, opened the way to numerical flexibility in the 1990s. As regards collective dismissals, which had

not been allowed before, a European Union Directive in 1991 permitted “collective dismissals for reasons of economic hardship, organisational restructuring, or employment adjustment” in some sectors (Schömann, Rogowski & Kruppe, 1998). Legislation on individual dismissals is still “extremely restrictive”. As regards hiring, “atypical contracts for dependent employment, such as fixed-term, part-time and agency work have been liberalized only in 1996-97” (Samek Lodovici: 281). In 1984 work-training contracts for young people (*contratto di formazione lavoro*) was instituted, but it was designed “to improve the chances of permanent employment for young people in need of training”, so that its introduction did not dramatically increase hiring probabilities (Ibid: 282). The 1997 Treu Packages “devised a new model of work training and apprenticeship contracts and new temporary contracts to ease school-to-work transition” (283). This package also increased the number of times fixed-term contracts are renewable and reduced sanctions in cases of violation of contract regulations. All this has made fixed-term work increase, but not dramatically. Fixed-term employment in 1997 amounted just to 8.8% of total employment, a figure much lower than in the Spanish case (Samek Lodovici, 2000).

A possible reason why fixed-term employment is still marginal in Italy is that unemployment has not been as severe as in Spain. Most authors agree, though, that the key to understand why neither the Italian economy nor Italian employers felt the urge to introduce numerical flexibility is the widespread use of Wage Supplement Funds (CIG) and early retirement (Samek Lodovici, 2000; Schömann, Rogowski & Kruppe, 1998). CIGS “supplemented income for a period that could last several years”, so that “[w]orkers were not laid off; instead they maintained their employment contract with the firm”. As stated by Schöman et al., “the Wage Supplement Fund (CIG) permitted work force adjustment despite rigid dismissal protection” (52).

3. France

Not long before winning the general elections in 1981, the French Socialist Party issued the so-called *Lois Aroux* (1982-83), that increased the minimum wages and the welfare benefits, creating jobs in the public sector and generally strengthening workers’ right; from the opposite point of view, they increased French labour market rigidity. The arrival of a right-wing party at office in the late 1980s was accompanied by measures aimed at introducing numerical flexibility in the French labour market: the removal of mandatory prior authorization for collective dismissals on economic grounds and the easier use of temporary work. “The initial impetus towards flexibility provided by the removal of prior authorization was partly off-set by the more stringent constraints subsequently imposed on firms firing workers, larger firms in particular, whose obligations became more binding” (Malo, Toharia & Gautié, 2000: 250).

The 1986 regulations issued by the by the Chirac government opened the way to “hire fixed-term or temporary workers for their normal, non-temporary, activities, while the maximum period for such arrangements was extended to two years” (250-251). As a result, fixed-term employment grew in France for the rest of the decade to reach 10-11% per cent of employment at the end of the decade. It remained more or less stable afterwards. Nevertheless, these changes have been perceived as piecemeal, never challenging the core of French labour law. They were not thought to radically alter the employment security of all workers.

DATA AND METHODS

Data

Two different surveys could help to answer the research question: the European Community Household Panel Survey (ECHP) and the different labour force surveys carried out in the year 2000 for whose national questionnaires Eurostat coordinated the addition of a module including questions explicitly aimed at exploring the transition from education to work. This module was labelled EULFS 2000 Module (“From School to Work”). Both datasets have advantages and disadvantages that I will next discuss.

The EULFS 2000 Module was carried out in fourteen EU member states and six Central/Eastern European countries. Instead of yielding a single dataset, as it was the case with the ECHP, the EULFS 2000 resulted in different national datasets that is necessary to gather in order to make cross-national comparisons. Cross-national comparability is thus technically more difficult⁷. The questions of the Module were addressed to the members of the sample who had between 15 and 35 years of age at the moment of the interview and had finished their full-time vocational training or general education in the prior five or ten years. The EULFS 2000 Module entails several advantages for the current research: first, the size of the sample by country is much larger than in the ECHP; second, education has been registered in more detail than in the ECHP; third, given the sample size and the more detailed registration of occupation and education, the conditions for building up an objective indicator of job mismatch seem to be better; finally, an explicit interest in exploring the transition from school to work guided the endeavour. In return, the EULFS 2000 Module has not yielded a unique dataset for all the countries involved, as it did happen with the ECHP. Moreover, as a labour force survey, it has not as wide a range of variables as the ECHP. Third, it does not include a question that permits making a subjective indicator of job mismatch. Finally, it is not panel data, which prevents an eventual duration analysis of job mismatch.

The European Community Household Panel (ECHP UDB, 1994-2001) includes personal and household information for fifteen countries along eight waves, from 1994 to 2001. As panel data, it allows for duration analyses of the transition from school to work, in its different dimensions. Although the size of each national sample is normally smaller than in the EULFS, the range of variables is much larger. For instance, it includes information on the household and personal budget that is obviously not included in a standard labour force survey. The ECHP permits to make both cross-sectional and longitudinal analyses of job mismatch. Moreover, it includes information that permits to build up both an objective and a subjective indicator of overeducation. For all these reasons, the ECHP seemed suitable for an exploratory analysis of the institutional determinants of overeducation.

Methods

The research question naturally calls for an analysis of the duration of the period from finishing education or training to the moment the work performed by the individual

⁷ Ianello assessed the comparability of the data provided by each one of these surveys (Ianello, 2002).

suits the training received before. Resorting to subjective, and more appropriately to objective indicators, this would mean an event-history analysis of job mismatch. In turn, this would require a clear definition of the origin and destinations of the period of study. But the moment when the individual finishes his/her period of education may not be clear-cut. For some systems of education, finishing education and beginning labour market activity is a blurred transition. Second, the destination of the period of study may not be fully clear either: it may be marked by the attainment of a full-time job or a stable one. Finally, the period of study is far from homogenous: it could be formed by spells of unemployment, inactivity and precarious, temporary jobs. Reaching a job that matches the qualifications (skills) acquired in the educational system may take a rather long process of adaptation.

An event-history analysis of job mismatch, theoretically coherent as it is, does not form part of this *exploratory* research of overeducation. Instead, overeducation has been analysed by means of a cross-sectional analysis, selecting one of the first waves of the ECHP, so that the effect of attrition over the size of the sample is reduced as much as possible. The first wave (1994) lacks essential information on the type of contract. For this reason, the second wave (1995) was selected. For this wave, logistic regression has been applied to data on Denmark, France, Italy and Spain, in order to assess the likelihood of the respondent to regard herself as overeducated or not.

Dependent variable

The matching between the main job carried out by the individual and the qualifications attained throughout the period of education or training could be captured by objective or subjective indicators (Groot & Maassen van den Brink, 2000). As for objective ones, several possibilities have been suggested (García Espejo, 1999; Groot & Maassen van den Brink, 2000). In some national case studies, scales have been set up in order to measure the logic, mathematical and linguistic skills required to perform some tasks. Such is the case of the General Education Development (GED), developed in the United States. Yet, it is more common to attribute a level of education to each occupation, within the range of occupations that constitute the International Classification of Occupations. In the Spanish case, Garrido has made a scale that attributes educational level to the different occupations of the National Classification of Occupations (CNO, Clasificación Nacional de Ocupaciones) of 1979 (Garrido, 1991: 168-203). A third objective indicator of overeducation is the so-called 'statistical method'. According to this method, a worker would be overeducated when she possesses a number of years of formal education above a standard deviation from the mean or the mode of her occupation (Halaby, 1994). This method does not consider the relationship between skills and work as static; it rather considers it as dynamic (García Montalvo, 1995; Kiker et al., 1997).

Objective indicators are not susceptible of psychological biases, but they have their own disadvantages. First, a same occupation or job may have different skill requirements in different times and institutional contexts. Moreover, as argued by Alba-Ramírez, "a particular occupation is likely to have different characteristics across industries, regions, firms, etc." (Alba-Ramírez, 2001: 262). Besides, an objective indicator may not consider the existence of intra-occupational differences in skill requirements that might be large enough, in the case of some occupational categories (Hartog, 2000; Madrigal

Bajo, 2003). All this would incline to choose the subjective approach for an exploratory study of the match between skills and jobs.

There are two possible subjective indicators of overeducation: either workers could be asked if they feel overeducated or undereducated for the work they do, or they could be asked what the minimum educational requirement would be for a new worker in the job they perform (Groot & Maassen van den Brink, 2000: 150). I would rely on the perception of the individual, resorting to the following question of the ECHP: “Do you feel that you have skills or qualifications to do a more demanding job than the one you have now?” This subjective assessment of overeducation does not have the problems of objective indicators mentioned above; yet, its validity should be critically considered, since workers may mentally *adjust* their training to the work they are performing; in other words, a problem of cognitive dissonance might make them *assume* that training is suitable when it is not actually the case (Madrigril Bajo, 2003).

Independent variables

The first set of models of logistic regression (Models 1 & 2, see Annex) includes age, gender and education. Age has been split up in five dummies, corresponding to the following groups: 17-25; 26-35; 36-45; 45 or more. The latter has been used as the reference group. Self-perceived overeducation is expected to be highest in the first age groups and decrease as age moves to the reference group. As regards gender, female workers’ self-perceived overeducation is assessed relative to male workers’ one. Education is recorded in the ECHP in three categories, corresponding to “recognised third level education” (ISCED 5-7); “second stage of secondary education “ (ISCED 3); and “less than second stage of secondary education” (ISCED 0-2). The latter works as reference category in the analysis. Relative to it, self-perceived overeducation is expected to be high in the first category and decrease towards elementary education.

Models 3 to 5 add variables related to labour market performance. Tenure has three categories, corresponding to having held a job for less than one year in the moment of the interview; for a period between one and five years; or for more than five years. This latter category has been used as reference for assessing the effect of belonging to the other two ones over the dependent variable. As regards type of employment, the effect of holding a fixed-term job is assessed relative to having a permanent one, which works as the reference category. In order not to lose the individuals who are self-employed (they do not have a contract), they have also been included in Model 5. The effect of belonging to this group is also assessed relative to having an indefinite contract. Self-employed workers disappear in the following models.

The third set of models includes external and internal mobility. As explained in the theoretical framework, these are means to correct overeducation. As regards external mobility, a new variable was created from the question in the ECHP asking about the reasons for “stopping in previous job” in the two years prior of joining the survey. The first category corresponds to those who answered that such a change occurred because the interviewee “obtained a better or more suitable job”. A dummy variable labelled ‘Job Change 1 (Better Job)’ was subsequently created. ‘Job Change 2 (Lay Off / End of C)’ corresponds to those who said that the reason for stopping in previous job were either the “end of [their] contract” or because they were “obliged to stop by [their employer]”. Finally, ‘Job Change 3’ corresponds to the rest of possible reasons

(marriage, childbirth, illness...) provided to answer the question. The reference category for all of them is not having stopped in previous job; that is, having *stayed* in the job the interviewees are holding. It must be expected those who have changed are less likely to regard themselves as overeducated; at least, this must be the case with the first category ('Job Change 1 (Better Job)'). As regards internal mobility, there is not explicit information in the ECHP that captures it. Instead, "training/education provided by the employer" has been used as a proxy. It is expected that those who inform to be in a process of training regard themselves as less overeducated than those who are not.

The effect of the educational system over self-perceived overeducation will be assessed by comparing the results of these models in Denmark, on the hand and, and the other three countries (France, Italy and Spain) that jointly represent a different system of education, on the other hand. *Ceteris paribus*, the likelihood of making the transition to a first significant job matching the qualifications acquired by the individual should be lower in generalist systems of education, characterised by a loose fit between educational degrees and work actually performed in the labour market. Comparing the results in the three countries (France, Italy & Spain) where the system of education is similar but labour market regulation diverge would allow us to assess the effect of the latter over self-perceived overeducation. We would expect to find that temporary (fixed-term) employment more closely associated to self-perceived overeducation where the rate of temporary employment is higher and the labour market is more clearly segmented. Such is the case of Spain, in relation to France or Italy.

RESULTS⁸

The effect of gender over self-perceived overeducation is significant in Denmark, France and Italy, but it has an unexpected inverse sign: being a female worker seems to be associated to a *lower* likelihood of perceiving overeducation⁹. Although the difference between male and female workers is not strong (the odd-ratios are close to one), the likelihood of feeling overeducated decreases by a factor change of 0.78 when comparing female Danish workers with their male counterparts (Model 1). The odds ratio for the other three countries is quite similar. The result is more puzzling if we consider that the effect of gender remains significant after controlling for educational attainment and the rest of variables entered into the analysis. This result would contradict the idea that women are more likely to perceive themselves as overeducated, due to discrimination in access to jobs. An alternative explanation of this finding is that self-perceived overeducation is closely associated to job satisfaction: it is well-known that female job satisfaction is higher than male one, being this fact quite consistent cross-nationally and comparing different moments in time¹⁰.

⁸ See Annex, Tables A3-A6

⁹ The effect in Spain is weaker and it loses significance when controlling for training and job change.

¹⁰ In the 13th. Annual Workshop of the 'Transitions in Youth Conference' (Valencia, September 2005), where this work was presented, it was suggested that a lower likelihood of perceiving themselves as overeducated of female workers would correspond to their higher likelihood of being satisfied with their jobs.

Age dummies also have a significant effect over self-perceived overeducation¹¹. Unlike what Credentialism would have predicted, age does *correct* the perception of overeducation. Relative to the oldest category of workers, workers belonging to the other three ones are significantly more likely to perceive themselves as overeducated (odds-ratio above 1) and this likelihood decreases with age. The decrease is not so obvious in French, Italy and Spain, where the results for the ‘Age 17-25’ and ‘Age 26-35’ are not so different. The association between age and self-perceived overeducation is particularly strong in Denmark, where youngest workers are clearly more likely to feel overeducated than the next age group. The effect gets even stronger when controlling for the type of contract. Amongst the three Southern European countries, odds-ratios for the first two age cohorts are higher in Spain than in France or Italy. Young Spanish cohorts seem to perceive themselves as more overeducated in relation to older cohorts than it is the case in France or Italy. This obviously tells about the effort the Spanish society has recently made in educational terms, but it might also be a sign that, in terms of job match, this effort is still to be rewarded.

As regards educational attainment, the results confirm the initial expectations. In relation to elementary education (reference category), having a university degree means a higher likelihood of perceiving oneself as overeducated. The effect of holding a university degree, in turn, is stronger than the effect of having a post-compulsory secondary diploma. This order holds constant cross-nationally. With the exception of Denmark, coefficients and odds-ratio do not change substantially when other variables are included in the model. Even so, significant cross-national differences appear. The association between educational attainment and self-perceived overeducation is generally weaker in Denmark than in the other three countries. Although the samples are not directly comparable (logistic regressions have been run for each national sample separately), it is remarkable that the odds-ratios for Denmark are considerably lower than for France, Italy and Spain. Considering Model 7, for instance, we may observe that, whereas the likelihood of perceiving overeducation increases by a factor change of 1.35 when comparing Danish university graduates with Danish workers with elementary education, it just increases by a factor change of 1.88 when making the same comparison in France. The corresponding odds-ratios in Italy and Spain are even higher: 3.65 and 3.40, respectively. As for post-compulsory secondary education, the likelihood of perceiving themselves as overeducated of Danish workers with this educational attainment is not significantly different from those with elementary education, when controlling for all the factors in Model 7. It is not the case in France, Italy and Spain, where post-compulsory secondary education is still significantly associated to a higher self-perceived overeducation, relative to the reference group. We may conclude, first, that overeducation is more strongly associated to self-perceived overeducation in France, Italy or Spain than in Denmark. This fits with the idea that more generalist systems of education, where vocational training receives less attention, perform worse as regards job mismatch than more standardized and stratified educational systems, where vocational training receive more importance. Even so, meaningful differences appear between France, on the one hand, and Italy and Spain, on the other. The amount of overeducation amongst university graduates possibly condition the one perceived amongst workers with secondary education, since the former occupy the jobs formally

¹¹ Age was found to correlate strongly with tenure. For this reason, age dummies were omitted from one of the Models were variables related to labour-market performance were added to the analysis (Model 3). As it could be seen in Model 4, France & Spain are the only two countries where both age and tenure dummies remains significant when they are introduced together in the logistic regression.

meant for the latter. The high odds-ratio perceived for workers with post-compulsory secondary education in Spain could be a sign that they are expelled for the jobs theoretically assigned to them, and it is so to a larger extent than in France or Italy.

Does tenure correct the perception of overeducation? A long-term relationship with the employer could benefit the employee in terms of training and possibilities of promotion, so that she could finally attain a match between her qualification or skills and the work she carries out. Certainly, tenure is associated with self-perceived overeducation in the four countries of study, but to a different extent¹² (Models 3 & 4). The stronger association occurs in Spain, and the lower in Italy. France and Denmark are intermediate cases. In relation to the reference group (workers with more than five years-long tenure), the likelihood of perceiving themselves as overeducated of Danish workers holding jobs for less than one year increases by a factor change of 1.45; for Danish workers with 2-5 years tenure, it increases by a factor change of 1.36 (Model 3). We observe similar, though slightly lower, odds-ratios for the corresponding groups in France. Controlling for education, tenure does not seem to have as strong an effect in Italy: workers holding their job for less than one year are only slightly more likely to feel overeducated than the reference group. In Spain, tenure seems to be a good predictor of self-perceived overeducation: holding a job for less than one year implies to be more than twice as likely to perceive herself as overeducated than the reference group (odds-ratio, 2.24), and the likelihood of feeling overeducated of workers with 2-5 years-long tenure increases by a factor change of 1.16, relative to the reference group. The strong relationship between tenure and overeducation in Spain could be not so much the result of the additional training granted to workers holding jobs for more than five years (and the subsequent match between qualifications and jobs) as the result of the remarkably poor perception of this match between workers with shorter seniority.

Holding a permanent or fixed-term contract is an essential part of the analysis¹³. In this regard, it should be noted first that fixed-term employment does not have any effect over the perception of overeducation in Denmark. Amongst the other three countries, it does show an effect in France and Spain, the two countries where temporary employment has grown steeper (see Table 1, above). Yet, when controlling for job change and training provided by the employer, holding a temporary contract only remains statistically significant in Spain¹⁴ (Models 6 to 8). Regardless of gender, educational attainment, job change (external mobility) or training provided by the employer, workers holding a temporary (fixed-term) job in Spain are more likely to perceive themselves as overeducated than those holding a permanent job. Even in countries like France or Italy, temporary contracts might be performing a role as stepping-stones that do not perform in Spain, where they are firmly associated to overeducation. We might think that this is just an effect of age compounded with educational attainment, given the fact that young age cohorts in Spain have enjoyed

¹² When controlling for age, the association between tenure and self-perceived education disappears in Denmark and Italy (Model 4). This may be due to the fact that age is more clearly associated to tenure in these countries than in France or Spain. It is thus difficult to state that tenure is less important in Denmark or Italy than in the other two countries.

¹³ Collineality was detected between tenure and this variable. For this reason, it was entered excluding tenure.

¹⁴ Fixed-term contract is again statistically significant for France in the last model (Model 8), but it should be noticed that age is not included in the model. Unlike that, even controlling for age, temporary employment in Spain remains strongly associated to self-perceived overeducation.

much better education opportunities than prior generations. Yet, unlike France, age does not deprive fixed-term employment from its statistical significance in Spain (Model 7).

The three last models are aimed at incorporating training (as a proxy of internal mobility) and job change (external mobility). As regards job change, the effect of three dummy variables over the dependent variable is assessed in relation to those who have not changed their job. As it might be seen in the result, the three variables have a significant effect over the dependent variable, and this effect has the same sign. It might not be a surprise that those who have had to change their jobs for “other reasons”, or forced by their employer or their contract, are more likely to regard themselves as overeducated than those who have not changed their jobs. Yet, it is unexpected that those who have changed their job to get a “better” one feel the same. Possibly job change is generally capturing the dissatisfaction with current labour market situation of the interviewee, rather than the capacity of the labour market external mobility to correct overeducation.

Training was also expected to correct the perception of overeducation. As regards training received by the employer, it was expected to correct the perception of overeducation. Far from that, it is positively associated with such a perception. Workers who receive such type of training may be amongst the ones who have more than elementary, or compulsory education. Moreover, they may be the ones with higher expectations and more motivated. An alternative explanation of the result could be that *precisely because* they are receiving such a training they are more likely to perceive themselves as overqualified in relation to the task they currently perform. It should be born in mind that the variable is informing about training *currently* provided by the employer. The effect of training might be better assessed if training *has already been* provided.

CONCLUSIONS AND DISCUSSION

Education has often been blamed for the lack of adjustment between skills provided and demanded by the labour market. A popular say in the 1980s in Spain called the university system “a factory of unemployment”. A cross-sectional analysis of self-perceived education based on data drawn for Denmark, Italy, Spain and France from the second wave (1995) of the European Household Panel Survey allows to qualify this judgement, casting light on the role of labour market regulation and temporary employment on overeducation. Four countries have been selected for the analysis: Denmark represents standardized and stratified educational systems (‘qualificational spaces’), where vocational training receives more importance. France, Italy and Spain have been selected as representatives of less stratified, more generalist systems of education, where vocational training receives less attention; it is more theoretically biased; and less attuned with labour market demands.

The results confirm that overeducation is not such a negligible phenomenon as Human Capital Theory would implicitly state, but they do not allow to make an assessment of its duration. Although a duration (event-history) analysis has not been made, the effect of age allows a reasonable suspicion that overeducation is not a permanent phenomenon either, as Credentialism would defend; on the contrary, age seem to have a decreasing effect over self-perceived overeducation. As regards Occupational Mobility Theory, the

results are puzzling: both job change and training provided by the employer are *positively*, instead of negatively, associated to overeducation.

Beyond these economic perspectives on overeducation, the results still show cross-national variation that educational systems may account for. First, the results suggest that 'qualificational spaces' perform better than 'organizational' ones, as regards self-perceived overeducation. Educational attainment is not as strongly associated to self-perceived overeducation in Denmark as in Spain, France or Italy. Even so, the effect of educational attainment still reveals substantial differences between France and Italy, on the one hand, and Spain, on the other hand. Moreover, controlling for gender, educational attainment, tenure (or age), job change and training provided by the employer, holding a fixed-term contract seems to be positively associated to self-perceived overeducation in Spain, which is not the case in Italy, and only the case in France when age is not included in the analysis. The results possibly reveal that temporary contracts do not perform the same role in France or Italy as they do in Spain. Being more than 30% of the dependent working population, temporary employment in Spain is not stepping-stone to a better position in the labour market, but a more stable situation that may have effects over the possibility of being (and staying) overqualified.

One of the main areas of development of the Spanish welfare during 1980s was education. Spanish society made then a big effort to expand the educational opportunities of its members. Quite unfortunately, the expansion of the Spanish educational system coincided with a strong deregulation of the labour market that soon made the rate temporary employment surpass 30% of dependent working population. The Spanish society was providing itself with a more qualified workforce, whose qualification and size was rapidly growing, while the regulation of the labour market was providing employers with incentives for an extensive and indiscriminate use of temporary employment, not fully compatible with long-term investments in human capital and improvements of the productivity of work.

Future research should complement the empirical evidence provided in this paper in two ways. First, the analysis should be replicated resorting to an objective indicator that does not bear the problems of correspondence between occupations and skills objective indicators usually have. A contrast of the results of applying objective and subjective indicators to the same data drawn from the ECHP for the four countries of study would shed light on the relative validity of subjective indicators of overeducation. Second, a longitudinal analysis of overeducation would allow us to know to what extent fixed-term employment *delays* the match between jobs and skills in the different countries of study. The results have demonstrated that fixed-term employment is positively associated to self-perceived overeducation in Spain: how long does it take for a temporary worker in Spain, if ever, to finally attain a job suitable to her initial training? Finally, an analysis of the trends in the quality of employment generated in the Spanish labour market during 1980s and 1990s, and a comparison with educational attainment of the Spanish labour force, would allow to confirm the mechanism through which labour market regulation might have had an effect on overeducation in Spain.

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ANNEX

Table A1. GROWTH IN VALUE ADDED PER EMPLOYED PERSON IN BROAD SECTORS Annual average percentage growth rates				
	Total Manufacturing		Total Services	
	1980-1990	1990-2001	1980-1990	1990-2001
Australia	2.0	2.4	0.5	1.8
Austria	3.7	3.7	1.3	0.6
Belgium	4.7	2.9	0.9	0.7
Canada	2.5	3.0	0.6	1.3
Denmark	1.1	2.6	0.9	1.2
Finland	4.6	4.9	1.6	1.4
France	2.7	3.5	1.6	0.2
Germany	1.7	2.4	1.0	1.2
Greece	--	3.5	--	2.4
Hungary	--	7.6	--	1.8
Italy	2.7	1.7	0.1	0.6
Japan	3.9	2.6	2.5	1.0
Korea	5.6	8.8	2.9	1.7
Luxembourg	6.4	3.3	4.1	0.5
Netherlands	3.1	2.6	0.1	0.5
New Zealand	1.7	2.2	0.7	0.8
Norway	2.1	0.9	0.8	1.8
Poland	--	9.4	--	1.8
Portugal	2.3	3.0	1.7	1.0
Slovak Republic	--	9.5	--	3.7
Spain	2.5	1.6	0.4	0.2
Sweden	2.8	6.1	0.9	1.6
United Kingdom	4.6	2.6	0.8	1.9
United States	3.5	3.5	0.6	1.6

Source: OECD STAN Database and OECD STAN Indicators Database, 2004; extracted from OECD (2005)

Table A2. Descriptive statistics (percentages)				
	Denmark	France	Italy	Spain
Overed (yes)	60,5	50	50,5	49,8
Overed (no)	39,5	50	49,5	50,2
Male	48,7	47,9	48,9	48,1
Female	51,3	52,1	51,1	51,9
Age 17-25	14,9	17,8	18,4	19,3
Age 26-35	20,2	18,5	19,4	18,3
Age 36-45	19,6	19,2	16,9	16,5
Age 46+	45,3	44,6	45,2	45,8
Higher Educ.	28,8	18,5	6,5	13,8
Second. Educ.	36,5	35,0	33,3	17,9
Elementary Educ	34,7	46,5	60,2	68,2
Tenure <=1	55,9	61,3	64,9	73,5
Tenure 2-5	12,8	9,5	7,1	6,3
Tenure 5+	31,3	29,1	28,0	20,2
Indefinite contract	86,5	88,7	87,7	61,4
Fixed-term contract	13,5	11,3	12,3	38,6
No job change	19,0	33,9	46,2	28,8
Change1 ("Better job")	24,2	22,2	20,6	17,0
Change2 ("Other reasons")	53,5	43,9	33,3	54,2
On-the-job Training (yes)	71,0	--	15,6	29
On-the-job Training (no)	29,0	--	84,4	71

Source: European Community Household Panel (ECHP UDB, 1994-2001): 1995

TABLE A3. Determinants of perception of over-education in DENMARK (1995)

Dependent variable is 1 (yes) and 0 (no)

Entries are odds ratios (coefficients and standard errors in brackets)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	MODEL 7	MODEL 8
Female	,78** (-,243; ,07)	,77** (-,252; ,07)	,79** (-,228; ,07)	,77** (-,252; ,07)	,72** (-,318; ,07)	,70** (-,348; ,08)	,70** (-,355; ,08)	,72** (-,323; ,07)
Age: 17-25	2,33** (,846; ,12)	2,62** (,964; ,13)		2,57** (,946; ,14)	3,56** (1,27; ,16)	3,69** (1,30; ,16)	3,52** (1,26; ,16)	
Age: 26-35	2,27** (,821; ,09)	2,23** (,805; ,09)		2,21** (,795; ,10)	2,22** (,801; ,09)	2,32** (,842; ,10)	2,17** (,778; ,11)	
Age: 36-45	1,74** (,556; ,09)	1,69** (,527; ,09)		1,68** (,523; ,09)	1,63** (,494; ,09)	1,77** (,572; ,09)	1,70** (,535; ,10)	
Higher education^o		1,52** (,419; ,10)	1,47** (,390; ,09)	1,52** (,419; ,10)	1,39** (,335; ,10)	1,34** (,296; ,11)	1,35** (,302; ,11)	1,26* (,239; ,10)
Secondary education^o		1,29** (,261; ,09)	1,34** (,295; ,09)	1,29** (,262; ,09)	1,20+ (,185; ,10)	1,16 (,155; ,11)	1,17 (,157; ,11)	1,21+ (,197; ,10)
Less than one year tenure^o			1,45** (,376; ,08)	1,03 (,029; ,10)				
2-5 years tenure^o			1,36** (,313; ,09)	1,01 (,014; ,10)				
Fixed-term job					1,04 (,044; ,12)	1,08 (,084; ,12)	1,03 (,034; ,12)	1,17 (,162; ,12)
Self-employed					,58** (-,531; ,13)			
On-the-job training						1,17+ (,165; ,09)	1,25* (,194; ,09)	1,27** (,244; ,09)
Job Change 1 (Better job)^o							1,09 (,091; ,11)	1,42** (,354; ,10)
Job Change 2 (Lay Off / End of C)							1,28* (,251; ,11)	1,65** (,501; ,11)
Job Change 3 (Other reasons)^o							1,27* (,243; ,11)	1,54** (,438; ,10)
Constant	1,07	,83	1,11	,82	,96	,86	,77	,99
N	3242	3218	3219	3218	3072	2818	2815	2816
LR Chi-square	104,57	121,65	46,39	121,72	154,34	137,88	144,42	57,96
DF	4	6	5	8	8	8	11	8
Pseudo R² (Nagelkerke)	,04	,05	,01	,05	,06	,06	,06	,02
% Correctly classified	61,1%	61,6%	60,9%	61,6%	62,6%	63,1%	63,7%	62,3%

Notes: p<0,01=**; p<0,05=*; p<0,10=+.

^o Reference categories: education=elementary; tenure=more than 5 years; type of contract=indefinite; job change=non-movers; age= 46 years old or more.

TABLE A4. Determinants of perception of over-education in FRANCE (1995)

Dependent variable is 1 (yes) and 0 (no)

Entries are odds ratios (coefficients and standard errors in brackets)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6 (1)	MODEL 7	MODEL 8
Female	,74** (-,299; ,05)	,71** (-,340; ,05)	,71** (-,332; ,05)	,71** (-,341; ,05)	,67** (-,387; ,05)	,68* (-,379; ,15)	,67** (-,399; ,05)	,67** (-,391; ,05)
Age: 17-25	1,53** (,428; ,08)	1,60** (,472; ,10)		1,38** (,329; ,11)	1,40** (,342; ,11)	1,71+ (,541; ,30)	1,34** (,297; ,11)	
Age: 26-35	1,81** (,594; ,06)	1,61** (,476; ,07)		1,52** (,421; ,07)	1,43** (,359; ,07)	1,33 (,286; ,20)	1,33** (,286; ,07)	
Age: 36-45	1,43** (,359; ,06)	1,34** (,293; ,06)		1,31** (,274; ,06)	1,25** (,223; ,07)	1,39 (,334; ,20)	1,20** (,185; ,07)	
Higher education^o		1,89** (,637; ,07)	2,00** (,697; ,07)	1,89** (,640; ,07)	1,84** (,610; ,07)	1,60* (,473; ,22)	1,88** (,632; ,07)	1,96** (,677; ,07)
Secondary education^o		1,78** (,581; ,06)	1,93** (,662; ,06)	1,81** (,594; ,06)	1,81** (,596; ,06)	1,73* (,473; ,22)	1,82** (,602; ,06)	1,91** (,649; ,06)
Less than one year tenure^o			1,40** (,337; ,07)	1,24** (,219; ,08)				
2-5 years tenure^o			1,23** (,211; ,06)	1,11 (,105; ,07)				
Fixed-term job					1,24* (,220; ,10)	,78 (-,240; ,28)	1,19 (,174; 10)	1,26* (,234; ,10)
Self-employed					,35** (-1,02; ,09)	,27** (-1,31; ,42)	,34** (-1,05; ,10)	,33** (-1,09; ,10)
On-the-job training						,86 (1) (-,146; ,20)		
Job Change 1 (Better job)^o							1,17+ (,161; ,08)	1,26** (,236; ,08)
Job Change 2 (Lay Off / End of C)							1,24** (,218; ,07)	1,32** (,279; ,07)
Job Change 3 (Other reasons)^o							1,33** (,285; ,08)	1,37** (,321; ,08)
Constant	,82	,58	,65	,56	,70	,99	,65	,72
N	6310	5959	5959	5959	5671	761	5663	5663
LR Chi-square	113,89	228,80	201,54	236,30	327,90	25,57	346,01	329,93
DF	4	6	5	8	8	9	11	8
Pseudo R² (Nagelkerke)	,02	,05	,04	,05	,07	,04	,07	,07
% Correctly classified	55,3%	58,2%	58,6%	58,1%	59,4%	61,5%	59,8%	59,8%

Notes: p<0,01=**; p<0,05=*; p<0,10=+.

(1) Information on training provided by the employer is missing for France in this wave. For this reason, and just for this model, it has been replaced by a different variable, formed from the var. PT017 of the ECHP. In the following models, training is omitted.

^o Reference categories: education=elementary; tenure=more than 5 years; type of contract=indefinite; job change=non-movers; age= 46 years old or more.

TABLE A5. Determinants of perception of over-education in ITALY (1995)

Dependent variable is 1 (yes) and 0 (no)

Entries are odds ratios (coefficients and standard errors in brackets)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	MODEL 7	MODEL 8
Female	,84** (-,166; ,04)	,76** (-,273; ,05)	,77** (-,256; ,05)	,76** (-,274; ,05)	,73* (-,303; ,05)	,75** (-,288; ,06)	,75** (-,281; ,06)	,77** (-,261; ,06)
Age: 17-25	1,49** (,400; ,08)	1,39** (,331; ,08)		1,29** (,259; ,09)	1,30** (,266; ,09)	1,35** (,302; ,10)	1,29* (,256; ,10)	
Age: 26-35	1,78** (,577; ,06)	1,53** (,427; ,06)		1,49** (,400; ,06)	1,46** (,384; ,06)	1,44** (,369; ,07)	1,33** (,285; ,07)	
Age: 36-45	1,58** (,459; ,06)	1,35** (,302; ,06)		1,34** (,295; ,06)	1,33** (,291; ,06)	1,38** (,324; ,07)	1,32** (,279; ,07)	
Higher education^o		3,79** (1,33; ,08)	3,85** (1,35; ,08)	3,79** (1,33; ,08)	3,67** (1,30; ,08)	3,50** (1,25; ,10)	3,65** (1,29; ,10)	3,68** (1,30; ,10)
Secondary education^o		2,45** (,899; ,05)	2,58** (,950; ,05)	2,46** (,901; ,05)	2,37** (,863; ,05)	2,32** (,841; ,06)	2,37** (,866; ,06)	2,47** (,906; ,06)
Less than one year tenure^o			1,25** (,226; ,07)	1,14+ (,132; ,08)				
2-5 years tenure^o			1,16** (,153; ,06)	1,03 (,038; ,07)				
Fixed-term job					1,13 (,130; ,09)	1,17+ (,161; ,09)	1,12 (,120; ,09)	1,14 (,135; ,09)
Self-employed					,74** (-,291; ,05)			
On-the-job training						1,44** (,366; ,08)	1,45** (,373; ,08)	1,42** (,356; ,08)
Job Change 1 (Better job)^o							1,26** (,238; ,08)	1,37** (,318; ,08)
Job Change 2 (Lay Off / End of C)							1,25* (,230; ,09)	1,33** (,288; ,09)
Job Change 3 (Other reasons)^o							1,26* (,234; ,10)	1,33** (,286; ,09)
Constant	,77	,54	,63	,53	,60	,57	,54	,62
N	7443	7326	7326	7326	7087	5290	5290	5290
LR Chi-square	112,92	536,81	499,75	539,54	530,69	367,52	381,30	363,48
DF	4	6	5	8	8	8	11	8
Pseudo R² (Nagelkerke)	,02	,09	,08	,09	,09	,09	,09	,08
% Correctly classified	55,2%	62,2%	62,2%	62,2%	62,2%	62,6%	62,6%	62,1%

Notes: p<0,01=**; p<0,05=*; p<0,10=+.

^o Reference categories: education=elementary; tenure=more than 5 years; type of contract=indefinite; job change=non-movers; age= 46 years old or more.

TABLE A6. Determinants of perception of over-education in SPAIN (1995)

Dependent variable is 1 (yes) and 0 (no)

Entries are odds ratios (coefficients and standard errors in brackets)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	MODEL 7	MODEL 8
Female	1,01 (,012; ,05)	,87* (-,136; ,06)	,86* (-,144; ,06)	,85* (-,152; ,06)	,84** (-,174; ,06)	,94 (-,062; ,06)	,93 (-,071; ,06)	,95 (-,043; ,06)
Age: 17-25	2,24** (,809; ,08)	2,00** (,694; ,09)		1,37** (,318; ,10)	1,63** (,493; ,10)	1,75** (,561; ,11)	1,77** (,575; ,112)	
Age: 26-35	2,49** (,915; ,07)	1,91** (,647; ,07)		1,62** (,486; ,08)	1,71** (,536; ,07)	1,89** (,639; ,08)	1,79** (,583; ,09)	
Age: 36-45	1,68** (,521; ,07)	1,34** (,298; ,07)		1,28** (,247; ,07)	1,30** (,264; ,07)	1,38** (,322; ,08)	1,33** (,289; ,08)	
Higher education^o		3,39** (1,22; ,06)	3,98** (1,38; ,06)	3,70** (1,30; ,07)	3,50** (1,22; ,07)	3,23** (1,17; ,08)	3,40** (1,22; ,08)	3,67** (1,30; ,08)
Secondary education^o		3,06** (1,12; ,07)	3,56** (1,27; ,07)	3,27** (1,18; ,07)	3,15** (1,14; ,07)	2,84** (1,04; ,08)	2,92** (1,07; ,08)	3,27** (1,18; ,08)
Less than one year tenure^o			2,24** (,808; ,06)	1,95** (,670; ,07)				
2-5 years tenure^o			1,16* (,152; ,07)	1,00 (,008; ,08)				
Fixed-term job					1,37** (,317; ,07)	1,36** (,309; ,07)	1,19* (,175; ,08)	1,35** (,307; ,07)
Self-employed					,77** (-,249; ,07)			
On-the-job training						1,13+ (,127; ,07)	1,14+ (,139; ,07)	1,13+ (,129; ,07)
Job Change 1 (Better job)^o							1,06 (,059; ,09)	1,20* (,186; ,09)
Job Change 2 (Lay Off / End of C)							1,40** (,339; ,08)	1,52** (,422; ,08)
Job Change 3 (Other reasons)^o							1,46** (,381; ,12)	1,54** (,437; ,12)
Constant	,59	,43	,46	,39	,44	,40	,37	,46
N	5886	5886	5886	5886	5746	4460	4458	4458
LR Chi-square	195,61	640,44	695,96	733,33	673,37	460,83	481,55	434,38
DF	4	6	5	8	8	8	11	8
Pseudo R² (Nagelkerke)	,04	,13	,14	,15	,14	,13	,13	,12
% Correctly classified	57,4%	64,8%	65,1%	65,6%	65,1%	64,5%	64,4%	63,9%

Notes: p<0,01=**; p<0,05=*; p<0,10=+.

^o Reference categories: education=elementary; tenure=more than 5 years; type of contract=indefinite; job change=non-movers; age= 46 years old or more.