MANNHEIMER ZENTRUM FÜR EUROPÄISCHE SOZIALFORSCHUNG

School-to-Work Transitions in Europe: Analyses of the EU LFS 2000 Ad Hoc Module

Edited by
Irena Kogan and
Walter Müller

UNIVERSITÄT MANNHEIM

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Contents

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Introduction

The transition from school to work is among the key topics of current social research and policy interests. It includes the core issue of youth labour market integration in different European countries, which exhibit a wide range of institutional structures and macroeconomic context conditions. It has also been one of the most challenging areas of study due to data constraints and, in particular, a lack of adequate, accessible and comparative longitudinal data. This situation has improved with the introduction of the European Union Labour Force Survey (EU LFS) 2000 ad hoc module on transitions from school to work, which combines the strengths of the large-scale Labour Force Surveys with specific information on school-to-work transitions. By providing an add-on to the regular LFS surveys, the ad hoc module allows for the generation of more specific information on transition processes in 20 European countries[1], including some longitudinal data, that is otherwise unavailable at the European level. The ad hoc module is particularly valuable because it includes significant details concerning educational attainment and careers by providing measures of the level and type of education obtained by those leaving the educational system for the first time. Second, the module adds a longitudinal perspective on individual employment careers by providing measures of the incidence of job searches, job search duration, duration of first job, and occupation of first job, all of which allow for the assessment of labour market dynamics at the early career stages. Finally, the module has some information on social background, so that for the first time, the effects of this variable can also be analysed as part of the LFS data.

Linking the ad hoc module to the established structure of the LFS offers the benefits of substantively relevant information, large sample sizes, and a comparable and standardized survey design, all of which are crucial to cross-national comparative studies of social processes. In fact, the ad hoc module is likely to further increase the value of the EU LFS for applied and academic research. Notably, combining the EU LFS core and ad hoc module questionnaires yields an extraordinary and currently unparalleled database on transition outcomes in Europe, which has rich potential for comparative analyses of educational careers and patterns of labour market entry.

The LFS ad hoc module is also a promising database for statistical indicator research because it provides additional information on the transition between education and work, which should allow for a marked improvement in social reporting on transition processes. This was illustrated by the Indicator report produced on the framework of the project,

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[1] Countries that participated in the EU LFS 2000 ad hoc module are Spain, Finland, Ireland, France, Italy, Sweden, Greece, the United Kingdom, Belgium, Denmark, Portugal, the Netherlands, Austria, Luxembourg, Hungary, Slovenia, Slovakia, Latvia, Lithuania, and Romania.

'Evaluation and Analyses of the LFS 2000 Ad Hoc Module Data on School-to-work Transitions'.

The first contribution in the current volume by Irena Kogan and Frank Schubert, a revised version of the first chapter in the above-mentioned report, presents a descriptive overview of the general process of school-to-work transitions in Europe from a dynamic perceptive. It utilizes the longitudinal information offered by the module to enhance the understanding of labour market integration processes in European societies.

In addition, this collection of papers addresses the core issues of transition research, including the effects of social background on educational and occupational careers, the relationship between field of education and gender inequality in the labour market, the incidence and consequences of job mismatches, job search and mobility behaviour in the early work career, and ethnic inequalities in the transition process[2].

The second paper, by Cristina Iannelli, proves that parental education still affects young people's educational and early occupational attainment in Europe. It shows that the relative advantage of having more educated parents is stronger in the Eastern European countries and weaker in the Nordic countries with other Western and Southern European countries falling between the first two groups. In most countries, the effect of social background on occupational outcomes appears to be indirect, i.e., mediated through education of young people, and this is particularly true in those countries where the association between young people's and their parents' education is the strongest.

In the third contribution to this volume, Emer Smyth examines gender differentiation in early labour market outcomes across European countries. She argues that in spite of the fact that the educational attainment of women has now surpassed that of men in many countries, differences persist in the type of educational courses taken by young women and men. Though countries differ in the extent of educational segregation by gender, certain regularities are evident, with health/welfare, education and arts courses dominated by women and engineering courses dominated by men. Countries with higher levels of educational segregation by gender are also found to have higher levels of occupational gender segregation. At the same time, marked gender differences in labour market participation and job characteristics are still apparent between women and men who received the same kind of education, regardless of the country considered.

In his paper, Maarten Wolbers explores the determinants of job mismatches with respect to field of education and the effects of having a job mismatch on the labour market position

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[2] For a more descriptive approach see Indicator report published in the Eurostat Working Papers series (Population and social conditions 3/2002/E/No. 21) or online at http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?1=/public/education_labour/2000_transition, where informative indicators in the five substantive topical areas can be found.

of school leavers in Europe. Investigating the differences between European countries in incidence of job mismatch, the author claims that in countries in which the proportion of upper secondary education students in school-based vocational education is high, the incidence of job mismatches among school leavers is higher. At the same time, the negative effect of job mismatches on occupational status is less pronounced in countries with a larger proportion of school-based vocational education. In addition, adjustment strategies for improvement of job match by school leavers are discussed in-depth.

The contribution by Markus Gangl examines the effects of employment protection legislation on job mobility and status attainment among young people entering the labour market. It empirically demonstrates that strict employment protection legislation is negatively related to both job and status mobility rates, but positively associated with occupational attainment of labour market entrants' first, as well as current, jobs. The author claims that job shopping, however, typically does not compensate for a good start in working life and that this is particularly true for the low-skilled labour market.

In the last paper of this volume, Frank Kalter and Irena Kogan attempt to disentangle the complex mechanisms leading to ethnic inequalities at labour market entry using the longitudinal information available in the ad hoc module. Due to data constraints, this analysis is limited to two countries, Belgium and Spain, which significantly differ in their immigration contexts. The paper contains detailed analyses of the entry into first jobs of high, medium and low status for non-EU nationals and immigrants from Member states compared to native-born youth. It also describes the general transition patterns of these groups in the two countries.

Various statistical methods were applied in the papers collected in this volume. Methods were chosen based on their adequacy for the particular research question pursued. While the general strategy was to include as many countries as possible in the analysis, data limitations and particularly small sample sizes in some countries prevented reliable statistical analysis and led to the selection of a limited number of countries for some analyses (especially in the study of ethnic inequalities at labour market entry)[3]. The lack of certain variables for some countries, as well as problems with the comparability of variables among countries, have also restricted the number of countries that could be included in these studies.

The substantive topics studied in these papers cover the core issues of the transition from school to work. These papers, however, address just a few of the questions that could be profitably studied using this data. Despite some limitations of the data, this collection of

[3] Data limitations are extensively summarised in the report on data quality and cross-country comparability by Iannelli (2002).

papers demonstrates the great potential of the LFS 2000 ad hoc module for in-depth research on the school-to-work transition. This potential is likely to be further enhanced once data accumulates through regular replications of the module.

Irena Kogan and Walter Müller

Youth Transitions from Education to Working Life in Europe: A General Overview

Irena Kogan
Frank Schubert

Abstract

This chapter presents general indicators of the labour market status and the nature of employment among school leavers at the time of the interview in the wide range of countries that participated in the EU LFS 2000 ad hoc module on transition from school to working life. For the majority of the labour market outcomes we applied a dynamic perspective, relating them to the time individuals have already spent on the labour market.

Results show that after leaving education young people generally enter the labour market and start working life. In the majority of countries a prevailing pattern is an increase in labour force participation shortly after leaving education and a subsequent stabilization. It is further evident that in all the countries school leavers experience the most serious problems finding employment immediately after leaving education, but their employment situation tends to improve with the passage of time. While activity and unemployment rates, as well as occupational position clearly depend on the level of education of young school leavers, there is no evidence that higher education protects young job entrants from atypical forms of employment in their early career.

Table of Contents

1 Introduction

Contributing to the body of the comparative research on school-to-work transitions in Europe (e.g. Müller and Shavit, 1998; Hannan et al., 1997; Couppié and Mansuy, 2003) this chapter aims at presenting a broad descriptive overview of trends in transition from school to working life in Europe applying a dynamic perspective, i.e. relating the majority of labour market indicators to the time individuals have already spent on the labour market. This approach allows for a broad European comparison of both the process and the nature of labour market integration in different countries. In particular, the speed and immediacy of labour market integration can be revealed by comparing the extent of labour market differences between recent entrants and more experienced workers[1], as can the pattern of alignment that occurs over the initial years in the labour market.

To ensure a better reliability of the results for the graphical presentation we applied a method known as a 'moving average'. Mathematically speaking, given a sequence $\{a_i\}_{i=1}^{N}$, an n-moving average is a new sequence $\{s_i\}_{i=1}^{N-n+1}$ defined from the a_i by taking the average of sub-sequences of n terms: $s_i = \frac{1}{n}\sum_{j=i}^{i-n-1} a_j$. For the graphs an average has been calculated for an interval of 30 months, proven to yield relatively reliable results in the majority of countries.

Two types of labour market outcomes, reflecting two major aspects of the transition process in the initial career stages, are examined: the labour market status of young people and the employment characteristics of job entrants at the time of the interview (spring-summer 2000).

2 Labour market status indicators

2.1 Activity patterns of recent school leavers

After leaving continuous education young people generally enter the labour market and start working life. This is evident from the upper part of Figure 1[2], which plots the activity

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[1] Since the target group of the ad hoc module covers persons who left education in the previous 5-10 years, one might compare labour market outcomes of school leavers with up to 10 years of work experience.

[2] Here and further on, the following abbreviations stand for the following countries: 'ES' for Spain, 'FI' for Finland, 'IE' for Ireland, 'FR' for France, 'IT' for Italy, 'SE' for Sweden, 'GR' for Greece, 'UK' for the United Kingdom, 'BE' for Belgium, 'DK' for Denmark, 'PT' for Portugal, 'NL' for the Netherlands, 'AT' for Austria, 'LU' for Luxembourg, 'HU' for Hungary, 'SI' for Slovenia, 'SK' for Slovakia, 'LT' for Lithuania, 'RO' for Romania, and finally 'EU' for the European Union without Germany.

rates[3] of those who have left school for the first time by the time since leaving the education/training system (ETS) in all countries which participated in the EU LFS 2000 ad hoc module except Latvia[4]. The average labour force participation rate for 15-35 year old education leavers in the EU[5] countries is about 90 per cent with the proportion remaining stable irrespective of the time since leaving education. Differences in the countries' patterns and levels of labour force participation are however apparent. In a number of countries, namely, the Netherlands, France, Belgium, Luxembourg, Ireland, and Spain, young people exhibit higher labour force participation than the EU average. In Denmark and Romania activity rates are relatively low shortly after leaving the ETS but grow with the passage of time and reach or even exceed (as is in the case of Denmark) the EU average afterwards. While in the majority of countries a prevailing pattern is that of growing labour force participation shortly after leaving education and a subsequent stabilization, the reverse patterns are observed in Finland, Ireland, the UK[6], and Slovakia, where labour force participation tends to decrease slightly over time.

In the lower part of Figure 1, the level of participation in training in each country is plotted alongside the percentage of those enrolled in classroom instruction out of the total number of all those in schooling and/or training[7]. The general picture of training participation for the EU can be described as following: immediately after leaving education for the first time training participation grows slightly and then decreases linearly to its lowest level of about 5-6 per cent. On average about half (46.7 per cent) of all those enrolled in training in the European Union do so in a classroom environment as opposed to all other forms of training participation, namely, instruction in a work setting, combining work experience and classroom instruction, distance and self-directed learning, and conferences, workshops and seminars.

The most prominent pattern of training participation is its decrease with the passage of time after leaving initial education. This pattern is observed in Austria, Denmark, Belgium,

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3 The ILO definition of activity, as well of employment and unemployment rates, is used.

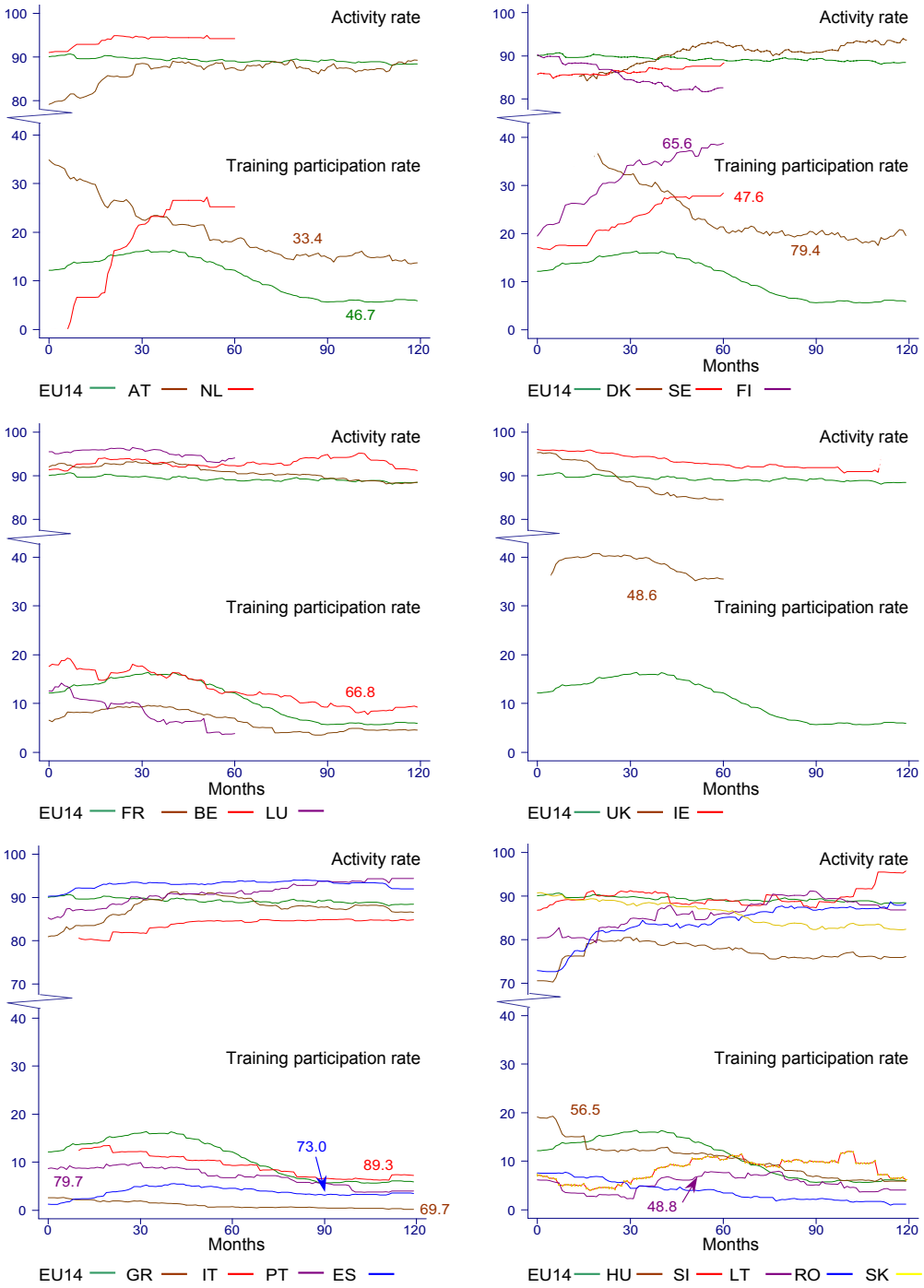
4 The target population for the EU LFS ad hoc module was defined only as those who had interrupted their studies in the last five years in Latvia, which makes the Latvian dataset absolutely incomparable with the rest of the countries. Furthermore, the EU LFS ad hoc module suffers from a number of deficiencies, which are summarised in the report on data quality and comparability.

5 As Germany did not participate in the module, figures for the EU exclude Germany.

6 Note that the sample of the target group in the UK may not be wholly representative, in particular because of the over-representation of older and highly educated young people (for more details see report on data quality and comparability).

7 Information about the type of training participation was not collected in Ireland, Latvia, France and Romania. For the Netherlands, Luxembourg, Slovenia and Slovakia, figures are not plotted because of their unreliability.

Figure 1: Activity (upper part) and training participation (lower part) rates by country and time since leaving continuous education for the first time (in months)



Luxembourg, the United Kingdom, Italy, Portugal, Hungary, and Romania. In the majority of the above-mentioned countries, a declining rate of participation in training corresponds to an increasing activity rate among young people (especially marked in Austria, Denmark, Italy, Portugal, and Romania). In a few countries, namely the Netherlands, Sweden, and Finland, a reverse pattern is however noticeable: young people seem to return to schooling after a certain period of time. In Finland the increasing participation in training, which largely (65.6 per cent) takes place in the classroom, can probably explain a decrease in activity rates among young people. A decline in labour force participation accompanying a growing participation in training is not however observed in the Netherlands or Sweden.

Countries differ not only in the pattern but also in the level of participation in training, with Austria, Denmark and the UK exhibiting higher training participation rates among young people immediately after they leave the ETS for the first time. In Sweden and Finland, countries with generally high levels of training participation, about 20 per cent of young people are enrolled in training or schooling immediately after leaving education for the first time, with the proportion reaching its maximum at 40 per cent for Finland and about 30 per cent for Sweden five years after leaving continuous education for the first time[8]. The increase is also pronounced in the Netherlands, where virtually no young people are enrolled in training shortly after leaving education for the first time, while the proportion of those engaged in schooling grows and reaches about 25 per cent in the five years after leaving education for the first time. Unfortunately there are no reliable data on the proportion of Dutch youngsters who combine education/training and work. In the rest of Europe training participation rates are similar to, or below, the EU average.

Participation in education/training can be considered as one possible explanation for the change in the patterns of labour force participation over time. Another explanation can be found in the different activity patterns among men and women, and especially women with children. The left graph in Figure 2 plots the average activity rate and the labour force participation rates of men, women without children and women with children for the pooled sample of countries which participated in the EU LFS 2000 ad hoc module[9]. It is evident that the activity rates of both men and women without children increase with the passage of time and are quite similar, especially shortly after leaving education. Unlike the activity rates of men and women without children, the labour force participation rate of women with children is much lower than the average and tends to decrease even further with the passage

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[8] Unfortunately both Sweden and Finland did not collect information for those who left education more than 5 years earlier (see report on data quality and comparability).

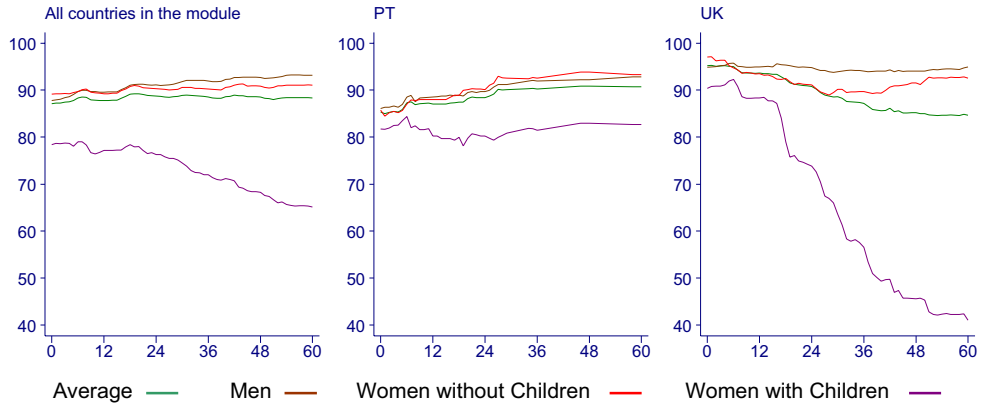
[9] For reasons of cross-national comparability we decided to concentrate only on the first five years after leaving education. Data for the Scandinavian countries and Lithuania were not included in the pooled sample because of the absence of information on presence of children.

of time after leaving education. Hence, withdrawal from the labour force for women with children might possibly explain the general decline in activity rates in some countries.

The question however still remains, why in some countries the decrease in activity rate is a typical trend (e.g. the UK, Ireland, and Slovakia), while in others (e.g. Portugal, Romania) the opposite pattern is observed. To answer this question we focus on labour force participation by gender and child status in the two countries with opposite activity patterns, Portugal (plotted in the centre of Figure 2) and the UK (on the right). It can be seen that in Portugal the activity patterns of men and women without children are practically identical, with a constant increase in labour force participation. The activity level of women with children is somewhat lower than for the rest of the population, but it is constant irrespective of time since leaving education, and even increases slightly for those who left education more than two years previously.

The picture is quite different for the UK: male labour force participation levels in the UK are extremely high (95 per cent) and independent of time since leaving education. Women without children also have high participation rates, especially immediately after leaving education. The dramatically decreasing labour force participation rates found among women with children (from 90 per cent for those who recently left education to 40 per cent among earlier school leavers) is the driving factor behind the generally decreasing labour force participation rate in the UK. The results emerging from this comparison indicate the existence of cross-national differences in the labour force participation of men and women (especially those with children), apparently related to variation between countries in family-related policies and the role of child-care institutions.

Figure 2: Activity rates by gender, child status and time since leaving continuous education for the first time (in months)



2.2 The employment patterns of recent school leavers

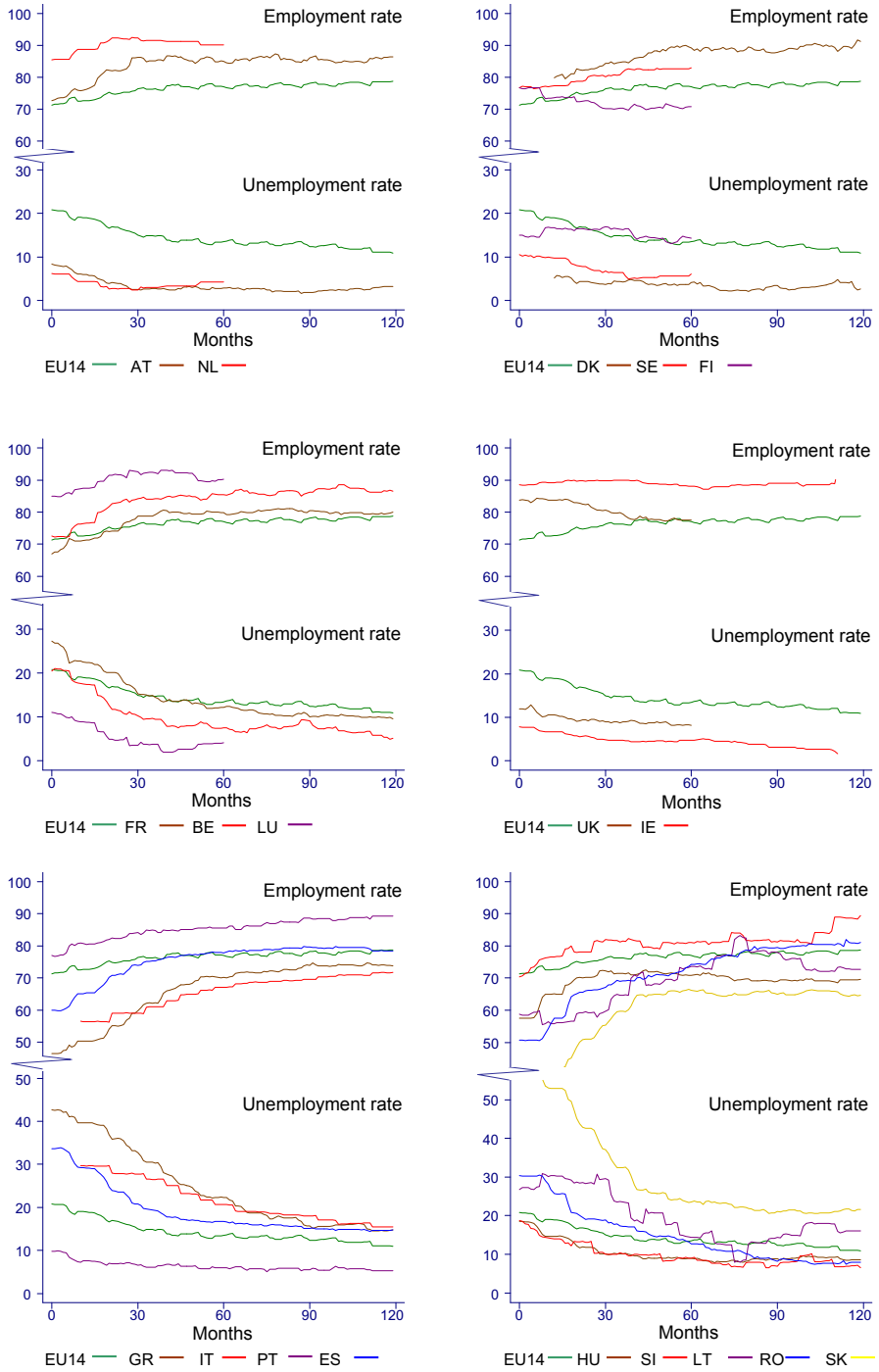
Finding employment, which matches and provides favourable returns to the qualifications obtained while studying, is probably the ultimate goal of every school leaver. While not solely a youth problem, unemployment can however reach particularly high levels among young people in countries where school-to-work links are loose. Young people certainly lack work experience and are often short of skills and knowledge as well as the qualifications required for certain jobs, which makes them exposed to extended periods of job search and even to long-term unemployment. From the lower part of Figure 3 it is evident that in all the countries under study recent school leavers experience the most serious difficulties finding employment shortly after entering the labour market, but their employment situation improves with the passage of time. In spite of similarities in this pattern, European countries differ in the level of youth unemployment. In Austria, the Netherlands, Denmark (countries with a dual system of education and training), but also Sweden, Ireland, the UK, and Portugal, the unemployment rate remains low and more or less constant irrespective of the time since leaving education. The youth unemployment rate in Luxembourg, Belgium, Slovenia and Hungary is also below the EU average, but more serious difficulties are noticeable for young people at the beginning of their working career. In the remainder of the countries, France, Greece, Spain, Italy, Romania, Latvia and especially in Slovakia, where unemployment among the most recent school leavers peaks at 50 per cent, more recent school leavers seem to experience particular difficulties in finding employment.

While the unemployment rate indicates the intensity of difficulties on the labour market, the employment rate, the proportion of those employed out of the total population aged 15-35, plotted in the upper part of Figure 3, measures the global impact of unemployment among school leavers. In general the trend is of growing employment with the passage of time after leaving continuous education for the first time. In the countries in which activity rates are stable, the employment patterns mirror the patterns of unemployment shown in the lower part of the graph. This is true for the EU as a whole, the Netherlands, Sweden, France, Belgium, Luxembourg, Ireland, the Southern European countries, Slovakia and Slovenia. On the other hand, in countries with stable unemployment rates, employment rates mimic the activity rates plotted in Figure 1. This is particularly true for Finland and the UK, where employment trends follow activity patterns albeit at a lower level.

2.3 Is higher education a safety net for employment difficulties during the early career?

In this section the focus is on the role of education as one of the most important individual-level predictors of the speed and immediacy of entering the labour market and finding employment. Figure 4 plots the activity and unemployment rates of school leavers in the

Figure 3: Employment (upper part) and unemployment (lower part) rates by country and time since leaving continuous education for the first time (in months)



upper and lower parts of the graph respectively by level of education[10] when leaving continuous education for the first time and time since this event in a selected number of countries (Austria, Belgium, Spain, Italy, Finland and Romania). The main basis for selection of countries is an attempt to provide a sample belonging to different school-to-work transition types based on the availability of information for the plotted indicators.

The general pattern is that unemployment rates for graduates from tertiary education are lower than those for persons with upper secondary or post-secondary non-tertiary qualifications, which are in turn lower than the unemployment rates for persons with only primary or lower secondary education. The only exception is Romania, a transitional economy country, which does not follow the pattern described. A reverse trend is evident for activity rates: more educated persons exhibit on average higher labour force participation rates than less educated ones.

A closer look at the peculiarities of activity patterns and unemployment trends in the individual countries reveals that in Austria[11], a country with a dual system, unemployment levels among school leavers with tertiary and upper secondary or post-secondary non-tertiary certificates are quite similar, while less educated youth have more difficulties in finding employment. It is worth noting that school-to-work transitions are comparatively smooth for all young Austrians, that is, no extreme difficulties for recent school leavers are apparent.

This is not the case in Belgium, where unemployment, especially among young people with upper secondary or post-secondary non-tertiary education, reaches 25 per cent and among the less educated group peaks at 45 per cent immediately after leaving education and entering the labour market. A stabilisation of employment trends is observed much later in the working careers of school leavers, but the unemployment rate of less educated individuals nevertheless never drops lower than 20 per cent within 10 years of leaving initial education.

In Italy the unemployment pattern is quite similar to that in Belgium with the only difference being that there is no sharp gap between less educated persons and those with secondary education immediately after leaving education. Activity rates in Italy are generally lower than in other EU countries with less educated persons being less attached to

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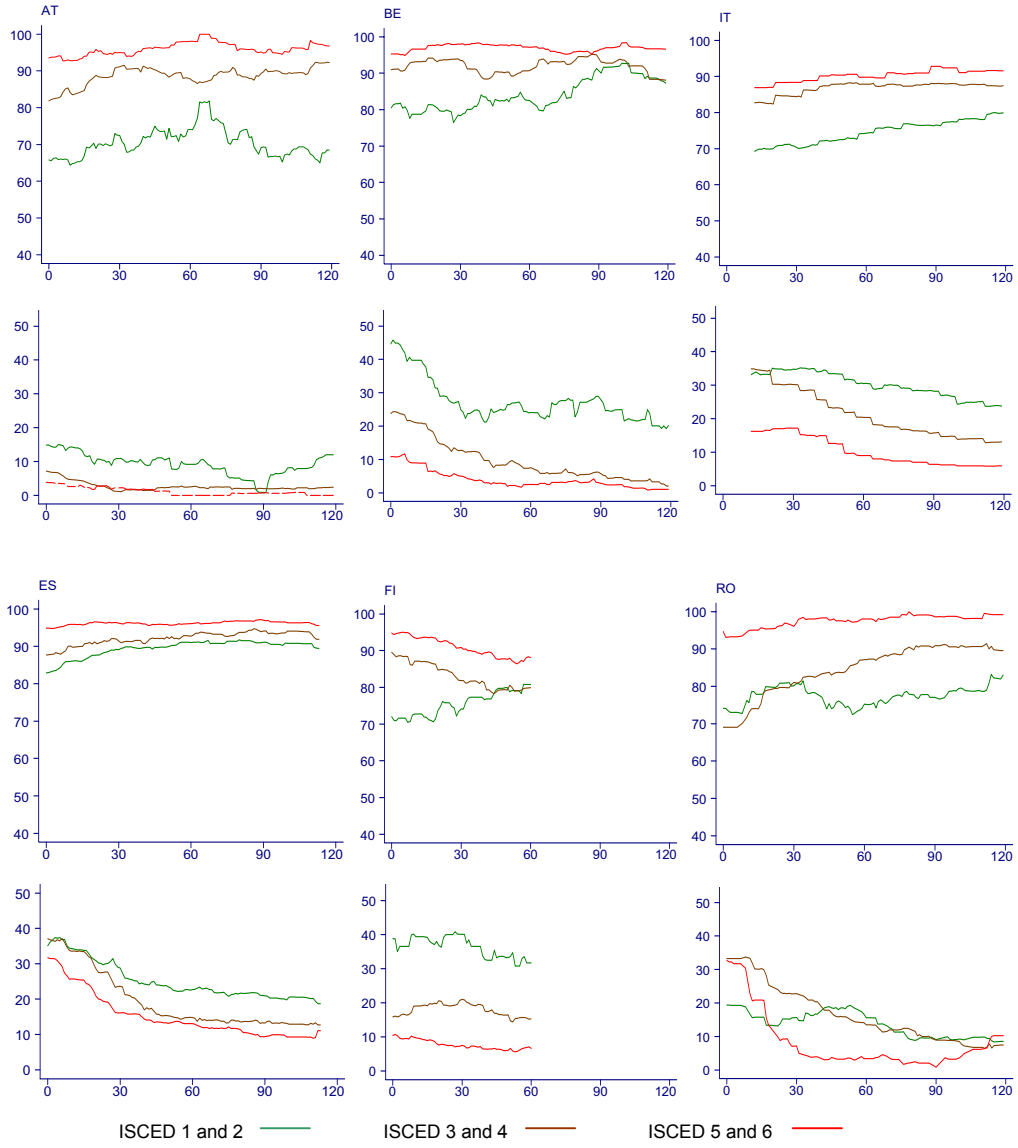
[10] Education pertains to the highest level of education or training successfully completed when leaving education for the first time and is coded into three broad categories based on the ISCED (1997) classification. Low educational level corresponds to ISCED 1 and 2 and includes persons with primary or lower secondary education. Medium level of education, i.e. ISCED 3 and 4, pertains to those with (upper) secondary or post-secondary non-tertiary education. Finally, high level of education (ISCED 5 and 6) combines graduates with a first or second stage tertiary qualification.

[11] A dashed line for highly educated young people signifies caution in relation to data reliability.

Figure 4: Activity (upper part) and unemployment (lower part) rates by initial level of education and time since leaving continuous education for the first time (in months)



the labour market. The unemployment trend in Spain is relatively similar to the Italian pattern albeit with greater employment disadvantage among highly educated youth immediately after leaving the ETS.

In the Finnish case, activity rates are worthy of special attention. It is evident that the activity rates of better-educated Finns decrease with the passage of time after leaving

education for the first time. Earlier we discovered that declining activity rates in this country are connected with growing participation in training. From Figure 4 it becomes clear that it is the better educated Finns (those with secondary or higher qualifications) who tend to re-enter education after some time in the labour market[12]. The opposite trend of labour force participation is manifest among the least educated school leavers in this country.

Figure 4 reveals that in Romania immediately after leaving education highly educated people experience more difficulties finding employment than less educated Romanians, which makes this country's unemployment pattern distinctly different from the rest of the countries discussed in this section. The employment situation of young people with university degrees does however seem to improve at a quicker pace than for other education groups.

3 Indicators of employment characteristics

3.1 Job instability among new entrants: Self-employment and precarious forms of employment

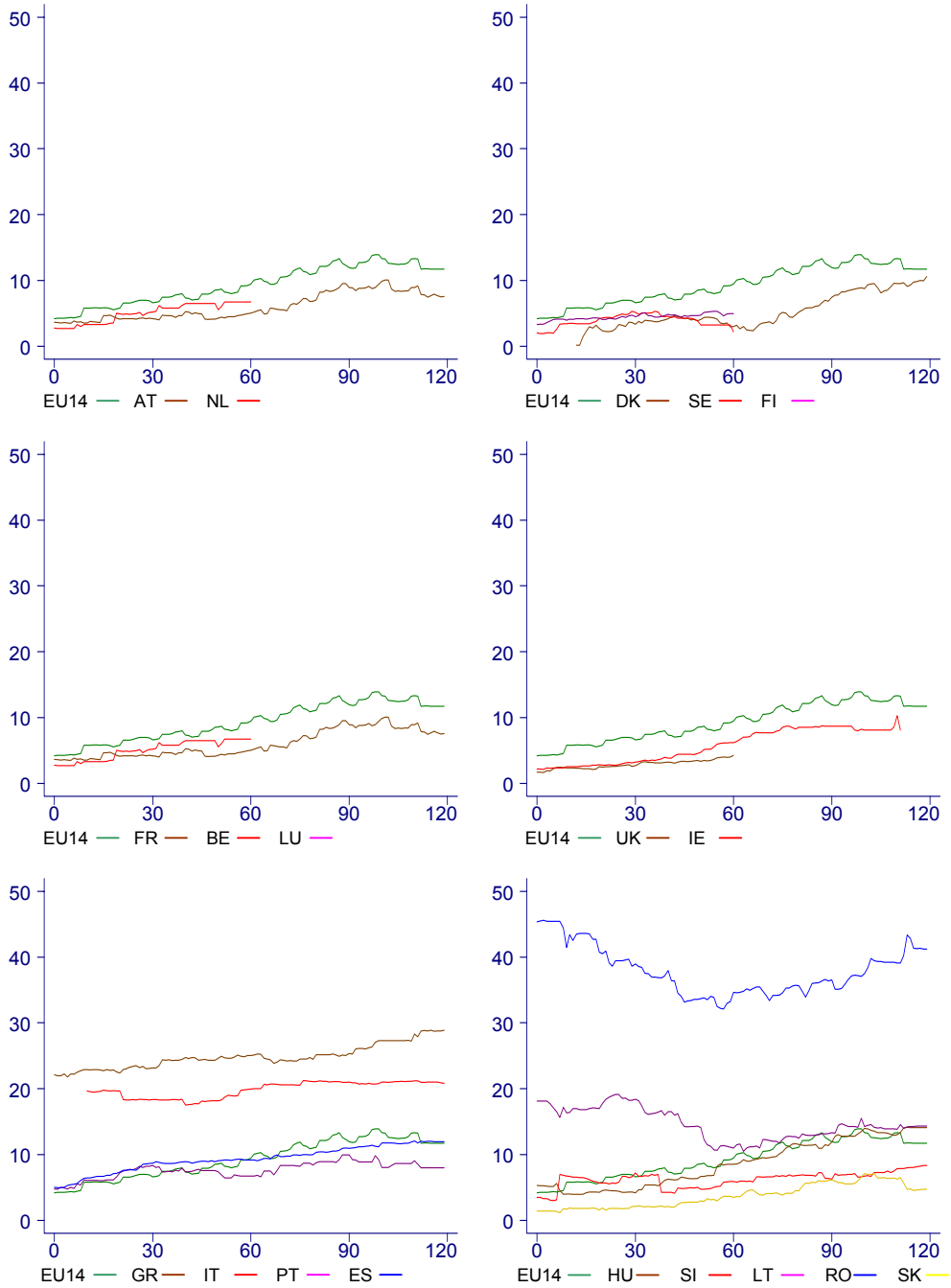
In this section, forms of employment other than a standard type of full-time, permanent, salaried employment, namely self-employment and precarious forms of employment, will be discussed.

Self-employment[13] is rather a marginal phenomenon in school-to-work transitions in the majority of Western European countries, as is evident from Figure 5, which plots the percentage of self-employed, including family workers, out of the total of all persons in employment. The line for the EU average illustrates that immediately after leaving education about 5 per cent of school leavers enter self-employment, while with the passage of time the proportion of self-employed rises and reaches 12 per cent for those with about 8 years work experience. Belgium is the only Western European country where the proportion of school leavers who resort to self-employment immediately after leaving education is higher than the EU average. Higher propensity for self-employment is characteristic of the Southern European countries, and this is particularly the case for school leavers in Greece and Italy, and to some degree in Spain. Patterns of self-employment among young people in former socialist Eastern and Central European countries prove to be extremely interesting. In Slovakia, Slovenia and Hungary self-employment among leavers is similar to the trends observed in the rest of the Western countries, while in Lithuania and especially in Romania the proportion of self-employed young people, who are mainly family workers, is extremely

[12] They probably determine the general decrease in the activity rates in Finland observed in the upper part of Figure 1.

[13] Self-employed include self-employed with or without employees and family workers.

Figure 5: Proportion of self-employed by country and time since leaving continuous education for the first time (in months)



high. It seems that school-to-work transitions in Romania reflect the country's general difficulties in the transition period to a market economy.

As labour legislation on full-time permanent employment differs in the countries discussed, we decided to describe the precariousness of youth employment rather than the representation of young school leavers in full- vs. part-time or permanent vs. fixed jobs. Precarious forms of work are defined here as either involuntary fixed contracts or involuntary part time jobs[14]. Figure 6 depicts the proportion in precarious employment by level of education and time since leaving continuous training for the first time in a selected number of countries[15]. The general trend is that with the passage of time in the labour market the proportion of young people in precarious employment decreases in all countries under discussion except Austria. In addition, countries differ substantially in the proportion of young job entrants employed in atypical jobs with the highest percentages observed in Spain (literally irrespective of the level of education immediately after entering the labour market) and France (especially for those possessing secondary certificates). Relatively low levels of involuntary part-time and temporary employment among youth are observed in Italy, Austria, the UK[16], and Hungary.

A closer look at the differences between school leavers by education suggests that higher education does not really protect young job entrants from precarious employment in the early career. This is true for Austria, Belgium, the UK, Finland, and Italy. In Hungary and Romania tertiary education qualifications provide better opportunities to find secure salaried employment than in the rest of the countries depicted here.

3.2 Occupational status of recent school leavers

This section discusses the industrial location and occupational position of recent school leavers at the time of the interview. To ensure a better comparability of results cross-nationally and to minimize the bias connected with a possible cohort effect, we have chosen to concentrate only on young people who left initial continuous education in the previous five years. From Figure 7[17], which depicts the proportion of young people employed in the

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[14] In addition the answers 'other reason' and 'no reason' were assigned to the category of precarious employment.

[15] A dashed line signifies caution regarding data reliability.

[16] In case of the United Kingdom the relatively low percentage in involuntary part-time and fixed-term employment does not however fully reflect job precariousness because of the generally low level of employment protection.

[17] Because of serious deficiencies in the data corresponding indicators were not plotted for Luxembourg, Ireland and Latvia.

Figure 6: Precarious employment (in per cent) by level of education and time since leaving continuous education for the first time (in months)

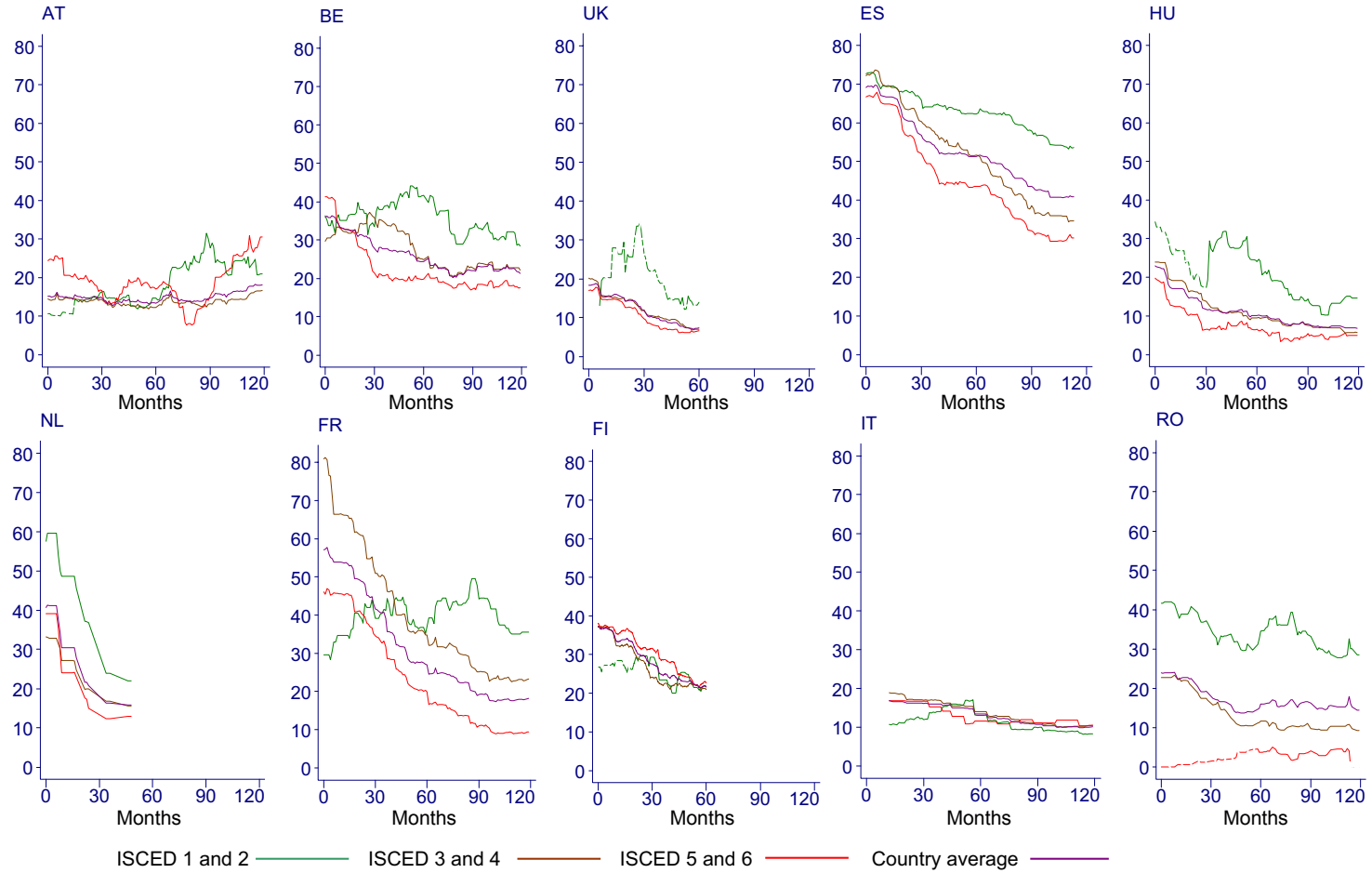
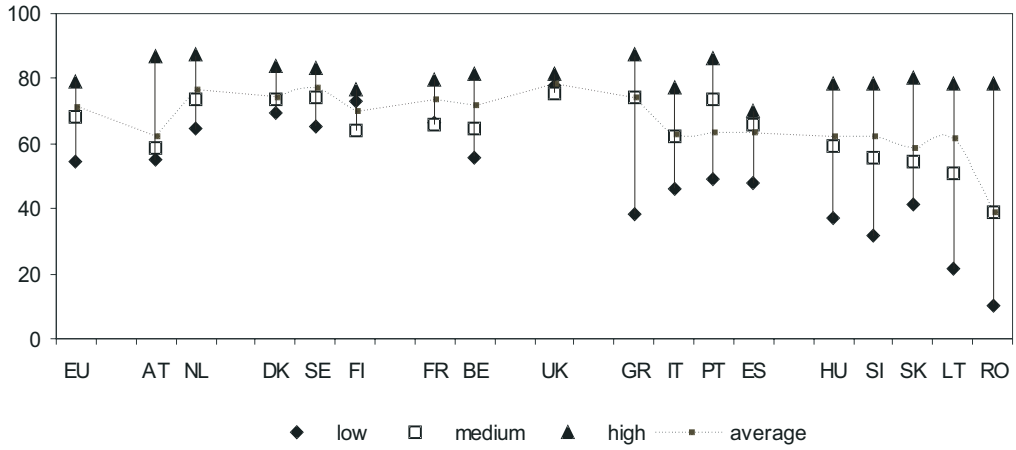


Figure 7: Proportion of school leavers employed in the service sector by level of education when leaving education for the first time and country



service sector (NACE H-Q vs. NACE A-F) at the time of the interview, it is evident that recent school leavers are mostly concentrated in the tertiary sector of the economy. The average figures for the European Union indicate that about 80 per cent of young people with tertiary education, about 70 per cent of those with upper secondary and post-secondary non-tertiary education and only 55 per cent of less educated school leavers are concentrated in the tertiary sector. Employment in the service, i.e. tertiary, sector is less dependent on level of education for young people in the Scandinavian countries, the United Kingdom and France. The explanation can be found in the general restructuring and downsizing of the primary and secondary sectors of these countries' economies. This is less the case in the former socialist countries, the Southern European countries and Austria, where the tertiarisation of the economy is less pronounced. In these countries education indeed plays a more important role in sorting people into certain economic sectors, with more substantial differences in industrial location by educational level found in Greece, Portugal, Hungary, Slovenia, Slovakia, Lithuania and Romania. Young people with tertiary education credentials are significantly over-represented in service sector jobs in Austria, while there is less differentiation at the lower educational levels in this country. In Spain, on the other hand, no significant differences are observed among young people with education above the secondary level in their employment location.

Table 1 gives more precise information on the sector of employment among young people with different educational qualifications at the time of the interview[18]. The percentages sum up to 100 within each educational level, that is, for example in Austria, 27.7 per cent of less

[18] Figures for Ireland are not presented since the data for educational level were found to be incorrect.

Table 1: Structure of economic activities (NACE) of recent school leavers by country and initial level of education when leaving education for the first time

Economic Sector (NACE)	Level of education	Country																	
		AT	NL	DK	SE	FI	FR	BE	LU	UK	GR	IT	PT	ES	HU	SI	SK	LT	RO
Agriculture	Low	4.6	.	.		.	4.8	4.0	.	.	.	5.5	(3.1)	8.6	11.1	.	.	30.3	75.4
	Medium	3.2	(3.6)	5.4	.	4.3	4.5	2.5	.	.	6.1	2.3	1.0	2.6	3.3	4.0	3.5	14.8	24.9
Industry	Low	27.7	18.3	23.4	.	18.9	19.6	27.3	.	.	19.4	37.0	29.4	25.9	40.6	(44.1)	.	24.4	10.0
	Medium	23.0	12.7	17.8	18.9	23.9	23.3	25.5	.	16.8	15.3	28.2	19.7	21.3	30.0	30.9	34.9	30.8	25.4
	High	12.4	9.3	14.6	13.2	18.4	15.5	14.4	.	15.2	9.1	14.6	10.6	19.9	15.6	19.6	11.3	16.4	16.3
Construction	Low	9.6	9.9	7.9	.	.	8.6	11.8	.	.	15.8	13.8	20.7	17.7	9.4	.	.	.	2.7
	Medium	10.5	9.0	10.4	4.3	6.3	7.0	9.0	.	5.4	5.2	5.2	(5.1)	10.4	7.4	6.7	9.1	5.7	5.5
	High	.	.	.	.	(2.3)	2.6	2.6	.	.	(2.1)	2.1	.	6.1	.	.	.	.	2.4
Wholesale and retail trade	Low	16.6	38.0	19.0	.	20.2	15.9	19.2	.	26.3	19.2	17.7	18.7	22.9	9.9	.	.	.	6.0
	Medium	18.3	21.3	19.2	16.7	15.9	18.3	18.5	(31.3)	22.4	27.7	19.1	20.7	25.1	21.4	22.0	15.8	22.0	17.1
	High	7.6	(7.8)	.	6.4	11.7	12.8	6.8	.	8.0	12.9	7.6	.	15.1	8.9	9.9	10.7	19.5	14.8
Hotels and restaurants	Low	12.1	.	(3.6)	.	.	9.6	5.7	.	.	11.8	7.5	7.1	9.7	(4.6)	.	.	.	0.8
	Medium	6.0	(6.0)	2.1	6.4	8.6	5.6	5.0	.	9.0	10.6	5.5	(5.4)	7.8	6.2	7.7	4.8	.	2.3
Transport and communication	Low	7.0	.	8.2	.	(12.0)	6.2	5.1	.	.	(2.9)	3.5	(2.8)	3.0	7.8	.		.	1.5
	Medium	5.4	(6.6)	8.7	8.2	7.5	6.0	8.9	.	6.1	6.5	5.2	(5.5)	5.8	6.9	5.9	6.7	.	5.6
	High	4.6	.	6.1	.	4.6	5.5	4.0	.	4.1	4.1	4.1	.	5.6	5.3	.	4.9	.	4.0
Financial intermediation	Medium	4.8	.	2.2	.	.	1.4	1.9	.	7.9	3.9	3.5	(5.0)	1.4	2.7	(2.6)	2.1	.	0.7
	High	6.4	(5.6)	6.0	.	.	4.7	7.2	.	9.0	6.5	6.1	(9.4)	5.4	5.4	(7.6)	6.1	.	4.7
Business activities	Low	6.4	.	8.1	.	(11.0)	12.3	7.7	.	.	.	3.3	3.7	3.0	.	.			
	Medium	8.1	11.1	7.4	14.3	9.9	8.6	7.0	.	9.7	7.5	10.9	11.4	7.2	5.5	4.1	4.3	.	0.9
	High	17.0	33.0	21.1	23.0	13.9	18.5	18.4	.	23.7	17.2	26.3	14.5	15.8	11.7	11.2	8.7	.	5.2
Public administration	Low	3.1	.	(3.4)			4.3	(3.6)	.	.	.	2.5	4.0	1.6	.		.	.	.
	Medium	5.0	(4.7)	5.1	.	2.3	7.0	7.4	.	3.9	5.7	6.0	8.6	5.1	5.3	5.1	5.6	5.4	6.2
	High	6.1	.	5.0	5.2	6.2	7.3	7.2	.	4.9	10.0	9.0	(9.2)	4.7	11.2	16.5	15.2	11.3	13.8
Education	Medium	3.5	.	3.0	4.0	4.0	3.3	1.6	.	3.4	2.3	2.7	(4.5)	1.7	1.6	(3.3)	2.6	4.9	2.7
	High	23.8	13.0	12.2	15.7	14.2	13.8	15.9	.	12.9	17.8	11.2	24.6	9.4	23.4	17.1	22.5	21.1	16.5
Health	Low	4.2	.	16.2	.	.	8.6	8.4	.	.	.	1.3	(2.9)	0.9	.	.	.	.	0.9
	Medium	8.5	16.0	15.3	16.1	9.4	8.5	8.1	.	7.8	3.4	5.7	(6.5)	3.7	5.7	(3.4)	5.7	4.8	5.6
	High	12.4	16.7	29.4	20.9	18.4	10.0	18.9	.	12	11.9	10.8	15.8	8.1	7.4	9.7	12.3	8.3	10.7
Other service activities	Low	6.0	.	5.4	.	9.0	7.0	6.1	.	.	(4.9)	6.7	5.6	6.0	(4.5)	.	.	.	2.3
	Medium	3.6	(5.0)	3.4	4.5	7.1	6.5	4.5	.	6.5	5.9	5.7	(6.7)	8.0	4.2	(4.3)	4.9	3.9	3.0
	High	7.3	(4.8)	(2.9)	.	4.3	6.0	2.9		6.4	4.3	6.5	.	5.5	6.0	.	3.5	.	5.8

educated school leavers are concentrated in industry, 9.6 per cent are employed in construction, 16.6 per cent in trade and so on. For the agriculture, hotel and restaurant sectors, we do not present the percentage of young people with tertiary education because of their negligible representation in these sectors. The same is the case in the sectors of financial services and education for school leavers with lower education.

It is evident that less educated school leavers tend to be concentrated in industry and trade in the majority of countries. Young people with tertiary education are, on the other hand, over-represented in business activities, education and health. Together with the general trends described here certain country differences are noticeable.

Figure 8: Occupational Status of Recent School Leavers by Country and Level of Education

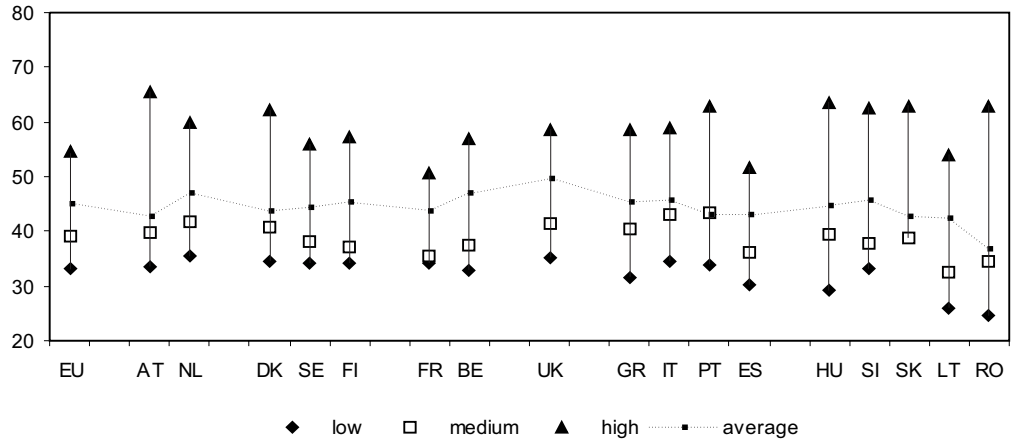


Figure 8 presents the average occupational status measured using the International Socio-Economic Index of Occupational Status (ISEI[19]) of young people who left continuous education by country and level of education[20]. The average occupational prestige in all countries, except Romania, tends to range between 40 and 50 points.[21] In all countries which participated in the ad hoc module, tertiary education leads to occupations of significantly

[19] Occupational status measured in the ISEI refers to the hierarchical position of one's occupation. It considers occupation as the intervening activity linking education and income. Using the ISCO-88 occupational codes each person was assigned a score on the International Socio-Economic Index of Occupational Status (ISEI), an interval scale, developed by Ganzeboom and Treiman (1996).

[20] Here as well as in the case of industrial location among school leavers, time since leaving education plays a negligible role as the percentage of young people employed in certain industries and occupations remains stable irrespective of the time since leaving continuous education.

[21] The range of the ISEI scale is 16 - 90.

Table 2: Occupational location of recent school leavers by country and initial level of education when leaving education for the first time

Occupations (Based on ISCO-88)	Level of education	Country																	
		AT	NL	DK	SE	FI	FR	BE	LU	UK	GR	IT	PT	ES	HU	SI	SK	LT	RO
Professional, technical, managerial	Low	11.7	(8.7)	19.8	.	16.0	6.5	5.7	.	.	.	6.2	6.8	3.5	(4.8)	.	.	.	0.8
	Medium	28.3	36.3	34.9	20.6	22.6	14.6	19.2	.	21.1	17.8	31.1	23.6	12.0	20.9	19.8	23.0	7.0	14.1
	High	91.7	89.0	96.2	83.6	77.8	66.5	75.2	(42.9)	74.8	72.2	76.8	86.4	54.5	91.0	92.1	92.5	62.6	85.0
Clerical and services	Low	32.3	40.2	30.7	.	28.3	33.6	23.9	(25.7)	47.4	26.1	26.2	30.1	25.3	16.4	(29.6)	.	20.0	6.3
	Medium	36.7	39.0	33.7	46.4	30.4	36.4	36.0	48.9	52.8	50.6	41.7	56.0	43.6	33.8	34.2	27.8	30.4	20.8
	High	7.2	(8.2)	.	10.3	15.4	23.7	20.9	(47.1)	21.2	21.4	18.1	11.9	27.8	7.3	(5.4)	6.2	20.2	5.7
Skilled agricultural and crafts	Low	26.3	22.0	16.1	.	20.9	31.5	32.0	(33.3)	17.6	55.8	38.6	34.7	27.3	30.3	(18.7)	.	49.5	77.4
	Medium	26.8	14.1	18.7	12.4	22.4	21.2	21.0	(24.8)	11.9	20.9	14.2	(7.1)	18.8	30.0	20.2	27.2	40.4	44.5
	High	.	.		.	(2.9)	4.3	2.3	.	1.6	4.1	2.9	.	8.4	.	.	.	11.9	3.6
Semi- and unskilled	Low	29.7	29.1	33.4	.	34.8	28.4	38.5	(28.4)	25.2	16.0	29.0	28.3	43.9	48.5	(45.7)	60.5	29.5	15.5
	Medium	8.2	10.7	12.7	20.6	24.6	27.8	23.8	(15.2)	14.3	10.7	13.0	13.4	25.6	15.3	25.8	22.0	22.3	20.6
	High	.	.	.	.	3.9	5.5	1.6	.	2.4	(2.3)	2.3	.	9.3	.	.	.	5.3	5.7

higher prestige for recent graduates, while for those with non-tertiary education occupational prestige proved to be below the country's average. Some cross-national differences are evident in the impact of non-tertiary education on the chances of obtaining more prestigious jobs. Figure 8 indicates that in Sweden, Finland, France and Belgium the occupational returns to non-tertiary credentials are similar irrespective of their type.

Table 2 describes in more detail the types of jobs[22] young school leavers occupy at the time of the survey by level of education. The table should be read in the same way as the one pertaining to industrial location of young people, i.e. the percentages sum up to 100 within each level of education. It is obvious enough that highly educated school graduates are employed mostly in professional, technical and managerial jobs in all countries. There are almost no cases of deskilling among highly educated youth – a negligible per cent of young people with tertiary education are found in the skilled agricultural and craft or semi-skilled and unskilled occupations. No evident occupational niches are however apparent for the least educated school leavers as they are almost equally represented in services, skilled, semi- and unskilled jobs. Young people with upper-secondary and post-secondary non-tertiary education are probably more often found in clerical and service positions, however as with the least educated school leavers no definite pattern is noticeable.

4 Summary

This chapter presents general indicators of the labour market status of young people and the employment nature of job entrants at the time of the interview in the wide range of countries that participated in the EU LFS 2000 ad hoc module on transition from school to working life. For the majority of the labour market outcomes we applied a dynamic perspective, relating them to the time individuals have already spent on the labour market.

Results show that after leaving continuous education young people generally enter the labour market and start working life. In the majority of countries a prevailing pattern is an increase in labour force participation shortly after leaving education and a subsequent stabilization. A reverse trend is observed in a number of countries (Finland, Ireland, Slovakia and the UK). Several factors are found responsible for the drop in activity patterns with the passage of time after leaving initial education in these countries: return to training participation several years after leaving initial education (e.g. Finland) and child-rearing responsibilities (e.g. women with children in the UK).

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[22] The one-digit ISCO-88 classification of occupations has been grouped into broader categories to ensure better reliability of the figures. It should be acknowledged, however, that the definition of the groups is quite broad and includes rather heterogeneous occupations.

It is evident that in all the countries school leavers experience the most serious problems finding employment shortly after entering the labour market, but their employment situation tends to improve with the passage of time. In Southern European countries (with the exception of Portugal), France and also in Eastern European countries these difficulties are particularly acute, while transition to employment is smoother in Austria, Denmark and the Netherlands (countries with the dual system), Ireland, the UK, Sweden and Portugal. Activity and unemployment rates clearly depend on the level of education of young school leavers and as expected unemployment rates are lower for the graduates from tertiary education. However, no evidence was found that higher education protects young job entrants from atypical forms of employment in their early career.

A trend of employment in the tertiary sector of economy is another finding of this analysis with less educated school leavers landing jobs in industry and trade, while young people with tertiary degrees over-represented in business activities, education and health in the majority of countries. Finally it is shown that tertiary education proves to be a determinant of higher occupational prestige for recent school leavers in all countries which participated in the ad hoc module.

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Parental Education and Young People's Educational and Labour Market Outcomes: A Comparison across Europe

Cristina Iannelli

Abstract

The existing social stratification research shows that social inequalities in educational and occupational opportunities are still a feature of our societies. This chapter studies country differences in the extent to which social origin affects young people's educational and occupational outcomes. Twelve countries covering different geographical, economic and social contexts in Europe are analysed in the paper. The data are drawn from the EU LFS 2000 ad hoc module data which collected information on school-to-work transitions. Consistent with other research findings, the results show that parental education still affects young people's educational and early occupational attainment in all countries under examination. However, as expected, there are significant country variations. Thus, the relative advantage of having more educated parents emerges as stronger in the Eastern European countries and weaker in the Nordic European countries. The other Western European countries fall between these two groups of countries, with little variation among the Southern European countries. Moreover, in most countries the effect of parental education on their children's occupational status appears to be mediated mainly by education (i.e. education has an indirect effect). This is particularly true in those countries where the association between children's education and parents' education is strongest. More universalistic Welfare State policies in the Nordic countries and the increasing social and economic disparities in the Eastern European countries during the transition to a capitalist economy may have played an important role in the polarisation of these two groups of countries.

Table of Contents

1 Introduction

Modern societies have witnessed an unprecedented expansion in educational participation and an increase in the importance of educational qualifications in the job allocation process. Modernisation theorists have regarded these phenomena as leading towards an equalisation of opportunities and towards social mobility (Kerr et al., 1960/73; Treiman, 1970; Parsons, 1994). According to this view, the increased demand for skilled employees has led to an expansion of education and to a stronger link between educational and occupational achievements which leaves no room for the operation of ascriptive factors. Thus, meritocratic criteria in the process of job allocation would prevail over particularistic considerations, based on gender, social class or ethnic groups. The empirical evidence concerning the effect of social origin on children's educational and occupational outcomes, however, has not supported this optimistic view. Indeed, much comparative research has demonstrated that in many countries the association between social origins and educational and occupational opportunities is strong. People from less advantaged social backgrounds are still at higher risk of dropping out of school at an early stage (e.g. lower secondary level) (Shavit and Blossfeld, 1993) and of having worse labour market outcomes (Hannan et al., 1995; Müller and Shavit, 1998; McCoy, 2000).

The main focus of this paper is the study of cross-country differences in the effect of social background on young people's educational and occupational outcomes. First, we investigate to what extent social background still affects the educational attainment of young people in Europe. Then we focus on the role of education as an intermediary factor in the transmission of social advantage. In this latter analysis we try to disentangle the direct and the indirect (via education) effects of social background on young people's occupational destinations. One of the main strength of the paper is the use of comparable data from 12 European countries. These data have been collected within the EU LFS (ad hoc module 2000) with the aim of gathering information on school-to-work transition. In particular, the paper uses the information collected in the ad hoc module on young people's 'educational attainment when they left continuous education' (as stated in the Eurostat definitions), their first significant job after leaving education and the highest level of education or training successfully completed by their father or mother. The number and range of countries analysed in this paper are extremely rich. This provides us with a broad picture of social inequalities in young people's educational and early occupational destinations in different geographical, economic and social contexts across Europe. There are two Nordic countries: Finland and Sweden; three Northern and Central European countries: Austria, Belgium and France; three Southern European countries: Greece, Italy and Spain; and four Eastern European countries: Hungary, Romania, Slovakia and Slovenia.

In the next section we discuss some of the main theoretical explanations for the persistence of social reproduction mechanisms (both at micro and macro levels) in modern societies.

Section 3 introduces the main research questions and empirical analyses addressed in the paper. Section 4 describes the data and the methodology used. Sections 5 through 7 present some descriptive data and the results of the empirical analyses. Finally, the main results and some remarks are discussed in section 8.

2 Why are social class differences difficult to eliminate?

2.1 Micro-level mechanisms of social reproduction

The empirical evidence has shown that modern societies have not yet succeeded in achieving an equalisation of educational and occupational opportunities among people from different social backgrounds. Much of the sociological literature has analysed the mechanisms through which social advantage can be transmitted. In relation to social inequalities in educational opportunities, the Cultural Capital theory (Bourdieu and Passeron, 1977) and the Social Capital theory (Coleman, 1988) have stressed the advantage associated with the greater cultural and social resources that children from higher social classes have at their disposal. Pupils from the most advantaged social classes possess language skills, attitudes and societal values which are highly rewarded by the school system. These attributes are transmitted by the family of origin and reinforced through the interaction with friends and members of the communities that the family belongs to. Another set of theories (Haller and Portes, 1973; Sewell and Hauser, 1980) focuses on another way in which social origin can indirectly affect educational attainment, namely the formation of aspirations. Pupils from higher social classes not only have better opportunities to develop their cognitive skills but are also encouraged by parents and teachers to continue education, obtain higher grades and form higher aspirations for their future. Conversely, children from lower social classes live in a less favourable environment, receive less encouragement from their parents and teachers, earn lower grades and develop lower aspirations. Because educational aspirations are an important factor in explaining educational achievement, social differences in aspirations lead to social differences in educational attainment. From a different perspective, Rational Choice theorists explain diversities in individuals' educational aspirations as the result of a rational evaluation of the costs and benefits which each social class attaches to various educational outcomes (Boudon, 1974; Gambetta, 1987; Breen and Goldthorpe, 1997). Children from higher social classes have more economic resources and more motivation to acquire higher educational levels. They aim to maintain their social position of origin and the possession of a university degree is an important resource to avoid the risk of downward mobility. In this sense they have more to lose from not reaching the higher educational levels than children from less advantaged social classes. Moreover, due to their access to greater economic resources, the costs associated with a long educational career are lower than for the other pupils.

The acquisition of better educational credentials by children from more advantaged social classes ultimately results in a clear advantage when they enter the labour market. As stated by Müller and Shavit, 'education is a crucial intervening link between the social background of individuals and their later class destination' (1998, p.1) and this may reinforce social inequalities in occupational destinations. Within a non-industrialised society, family of origin and direct inheritance determine occupational allocation (Grusky, 1983). Thus, conditions of birth are very important factors in determining future productive roles. Direct family transmission of social advantage – through parental social networks, economic support and family inheritance – may still emerge to be significant. However, nowadays the indirect family transmission – through the cultural and economic support given for the acquisition of higher educational qualifications – is very likely to be the most effective way to ensure good future job opportunities for the offspring.[1] This means that, if the unequal order of social groups' access to credentials remains stable over time, the opportunities for social mobility of young people with lower social backgrounds cannot increase (Collins, 1979).

2.2 The importance of macro-level contexts

It is debated whether institutional factors weaken or reinforce the association between social background and young people's educational attainment. According to Shavit and Blossfeld (1996), an equalisation in cultural and economic resources is a prerequisite to achieving equality of educational opportunities among different social classes (pp.241-242). They base their assertion on the empirical evidence that emerged in the studies carried out by Jonsson in Sweden (1993) and De Graaf and Ganzeboom (1993) in the Netherlands (both of which were part of the same international comparative project). In Sweden and the Netherlands, the association between social origins and educational transitions (that is, transitions from primary to secondary and from secondary to tertiary education) was found to have declined over time. The explanation given was that the equalisation of socio-economic conditions, probably due to the comprehensive welfare state characterising these two countries, had brought about an equalisation of educational opportunities. In contrast, within the same comparative study (Shavit and Blossfeld, 1993) the results from the other 11 countries – which included Western and non-Western capitalist countries, formerly socialist Western countries and Israel – showed a persistence in the educational selection which favoured children of privileged social origins (p.21).

The expansion of education may be another institutional factor operating in favour of an equalisation of educational opportunities. The reason is simple: if the proportion of people

[1] This is because, as suggested by the modernisation theories, modern economies heavily (though not exclusively) rely on educational credentials in the job allocation process.

entering the education system increases overall, more people from less advantaged social backgrounds are likely to enter. However, expansion of education does not always bring about a reduction in social inequality in educational opportunities. According to Raftery and Hout (1993), in order for an equalisation process to happen, the participation rates at a certain educational level for the most advantaged social class must reach saturation. In this case, a further expansion of education is associated with a real decline in the effect of social origins on equality of opportunities. If this condition is not satisfied, children from advantaged social classes will continue to be substantially advantaged in the chances of continuing their education when compared with children from other social classes (Raftery and Hout, 1993; Heath, 2000). Indeed, past reforms aimed at opening up the higher levels of education to students from different educational and social backgrounds often did not bring about the expected equalising effect.[2] This seems to suggest that more active policies specifically aimed at removing barriers and increasing opportunities for children from lower social classes are needed.

Eastern European countries under the socialist regimes experienced active discriminatory policies in favour of working class children. In the 1950s, policies were introduced which regulated students' admission into secondary and tertiary education: they established strict quotas which dictated that certain proportions of all students admitted to schools and universities had to come from a working class background (Ganzeboom and Nieuwbeerta, 1999; Robert and Bukodi, 2000). These educational policies, together with the abolition of large-scale private ownership and the rights to inherit several types of private goods, were aimed at ending the transmission of social advantage between generations. Some empirical findings show that these egalitarian educational policies were not successful and in the Eastern European countries, as well as in the Western European countries, the effect of social background on educational attainment did not substantially decrease over time (Mateju, 1993; Szelényi and Aschaffenburg, 1993; Heyns and Bielecki, 1993; Ganzeboom and Nieuwbeerta, 1999).[3] In these countries the cultural resources, more than the economic resources, of the family of origin seemed to matter most in the transmission of social advantage (Ganzeboom et al., 1990; Mateju, 1990). This may have changed after the fall of the socialist regimes since income inequalities in these countries have been

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[2] For example, the 1960s reforms in Italy, which aimed to give all students (irrespective of their social and academic background) the opportunity to enter the university system, have not produced the foreseen equalisation effect. This is because guaranteeing access to university did not guarantee equal opportunity for success. Thus, despite the growing number of students entering the university system, the percentage of graduates has remained particularly low, especially if compared with other OECD countries.

[3] On the other hand, some equalising effect of similar policies has been found in China (Deng and Treiman, 1997).

growing. However, during the period of economic transformation towards a capitalist economy, educational inequalities in Eastern European countries increased (Micklewright, 1999).[4]

It is clear that social inequalities in educational attainment are difficult to eliminate and that this in turn has consequences for the transmission of inequalities between generations. In this paper we try to define the current situation of social inequalities in young people's educational and occupational outcomes and assess the degree of similarities and differences across European countries.

3 Research questions

The present work will try to answer the following research questions:

Do European countries vary in the extent to which social background affects young people's educational and labour market outcomes?

Does social origin directly affect young people's labour market entry? Or is the effect of social origin on young people's destinations mediated mainly by education in all countries under examination?

Is it possible to discern patterns (similarities or regularities) across countries of the role played by social origin on young people's destinations?

As already pointed out, the sociological literature overall indicates that social inequalities are resistant to change. Thus, we expect the effect of social background (here measured by parents' education) on young people's educational and occupational outcomes to be significant in all countries under examination. However, since individuals' cultural and economic disparities as well as institutional factors (education and labour market characteristics and policy decisions) vary across countries, we expect to find significant country variations in the extent to which family of origin affects children's outcomes. There may be greater similarities among the countries which are part of similar geographical as well as economic and social contexts. However, since each country has its own characteristics, we prefer to avoid grouping the countries in any predetermined manner and to analyse them separately from each other. This makes it possible to explore differences not only across but also within the various areas of Europe.

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[4] Among the reasons for these growing educational inequalities is the widening gap between households income and the increase in the direct costs of education due to the reduction of public expenditures (e.g. introduction of tuition fees and the abolition of free textbooks; Micklewright, 1999).

The empirical analyses start by examining patterns of intergenerational (im)mobility in education, that is, patterns of stability or mobility between parents and children in the level of education achieved. Secondly, analyses focus on the effect of social background differences in young people's educational outcomes across countries. Two outcomes will be analysed: early school leaving and tertiary graduation. Finally, the paper analyses cross-country variations among young people with different social backgrounds by occupational destinations (measured by the occupational status of first significant job).

4 Data and definitions

The EU LFS 2000 ad hoc module data provide retrospective longitudinal information on the transition from school to work (e.g. educational attainment when leaving continuous education and first significant job entered after leaving education) of young people aged 15-35 who left education for the first time in the last 10 years.[5] Although the data were collected in 20 European countries, this paper includes only data from the countries in which information on social background (i.e. parents' education) was collected and for which a sufficient degree of comparability has been established (see Iannelli, 2002).

In the EU Labour Force Survey 2000 ad hoc module, an extensive definition was proposed by Eurostat for identifying the time of leaving continuous education. 'Leaving continuous education' should have included leaving from both education and training (where at least 10% of the total training was undertaken at the educational/training institution), leaving from full-time or part-time courses and from vocational and general courses.[6] However, a few countries – Hungary, Italy[7], Romania[8] and Slovakia – adopted a more restricted definition which considers only leavers from the formal education system.

'First significant job' is defined as a job started after leaving continuous education with a minimum duration of 6 months and with a minimum of 20 working hours per week, excluding casual work or training schemes. With the exception of Belgium, all countries also considered those jobs which started before leaving continuous education and went on after leaving education to be first significant jobs.

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[5] Finland and Sweden (but also Luxembourg, the Netherlands and UK, which are not included in this paper) chose a shorter time period, 5 years, as the time span between leaving education and the time of the survey.

[6] Interruptions of study lasting less than 1 year are not considered 'leaving continuous education'.

[7] Regional vocational courses (which may have a component of training) are included.

[8] Initial training is part of the education system.

The data are analysed using both descriptive statistics and the results of logistic and OLS estimations. The latter analyses are aimed at measuring the significance of the effect of parental education on young people's educational and labour market outcomes and of cross-country differences in the relative advantages associated with different social backgrounds. Dummy variables are used to measure the effect of gender and educational attainment of respondents and parents. Three levels of educational attainment are considered: lower-secondary (ISCED 1-2), upper-secondary/post-secondary (ISCED 3-4) and tertiary education (ISCED 5-6). Young people's occupational status is measured according to the International Socio-Economic Index of Occupational Status (ISEI), with a range of 16 to 90, with the highest value attributed to the highest occupational status (Ganzeboom et al., 1992).

5 Descriptive overview

Table 1 presents means and standard deviations of the main characteristics of young people who left continuous education in each country under examination. There are large country variations in the educational attainment achieved by young people when leaving continuous education.[9] Italy, Romania and Spain show the highest percentages of young people leaving continuous education with only compulsory schooling or less (ISCED 1-2). In contrast, in Austria, Belgium, Finland, Greece, Hungary, Slovenia, Slovakia and Sweden the rates of young people leaving with only compulsory schooling or less are low (below 20%). In most countries more than half of the young population left continuous education with a diploma from upper-secondary or post upper-secondary (non-tertiary) education (ISCED 3-4). At tertiary level, Austria, Hungary, Italy, Romania and Slovakia are characterised by low rates of graduation, between 10 and 15 per cent. The countries with the highest percentages of tertiary graduates are Belgium, Finland, France and Spain.

The distribution of parents' highest educational attainment also shows very large country differences. The most striking difference is in the percentages of parents with low levels of education (ISCED1-2). These percentages are particularly high in the countries of Southern Europe (80% in Spain, 68% in Italy and 66% in Greece) and comparably low in Slovakia, Finland, Hungary, Sweden and Austria (below 30%). If compared with the data on children's educational attainment, these data point out the remarkable improvement that the younger generation in Southern European countries have made in their educational attainment. In all

[9] In France, the highest level of education refers to both successfully and unsuccessfully completed education when young people left continuous education. However, the data have been corrected in those cases where young people reported having a lower level of educational attainment at present than at the time of leaving continuous education.

Table 1: Mean (and in parentheses standard deviation) of the main characteristics of education leavers

	AT	BE	ES	FI	FR	GR	HU	IT	RO	SE	SI	SK
Total Number of cases	4632	2930	14909	3576	19444	7654	8614	17331	4693	1872	1750	3872
Female	0.48	0.48	0.47	0.49	0.50	0.52	0.49	0.48	0.46	0.51	0.47	0.50
	(0.49)	(0.49)	(0.49)	(0.50)	(0.49)	(0.49)	(0.49)	(0.49)	(0.49)	(0.49)	(0.49)	(0.50)
Highest educational attainment when leaving continuous education/training												
Lower-secondary or less	0.15	0.17	0.35	0.12	0.20	0.15	0.15	0.29	0.27	0.14	0.08	0.04
	(0.36)	(0.37)	(0.48)	(0.32)	(0.40)	(0.36)	(0.35)	(0.45)	(045)	(0.35)	(0.27)	(0.19)
Upper-secondary	0.74	0.42	0.22	0.56	0.42	0.58	0.70	0.56	0.63	0.62	0.70	0.86
	(0.44)	(0.49)	(0.41)	(0.50)	(0.49)	(0.49)	(0.46)	(0.49)	(0.48)	(0.49)	(0.46)	(0.34)
Tertiary	0.11	0.41	0.43	0.32	0.37	0.27	0.15	0.14	0.10	0.24	0.22	0.10
	(0.31)	(0.49)	(0.49)	(0.47)	(0.48)	(0.44)	(0.35)	(0.35)	(0.30)	(0.43)	(0.41)	(0.30)
Parents' highest educational attainment												
Lower-secondary or less	0.27	0.45	0.80	0.21	0.51	0.66	0.26	0.68	0.44	0.26	0.33	0.16
	(0.44)	(0.50)	(0.40)	(0.41)	(0.50)	(0.47)	(0.44)	(0.46)	(0.50)	(0.44)	(0.47)	(0.37)
Upper-secondary	0.54	0.29	0.10	0.42	0.34	0.25	0.61	0.26	0.50	0.37	0.51	0.76
	(0.50)	(0.45)	(0.30)	(0.49)	(0.47)	(0.43)	(0.49)	(0.44)	(0.50)	(0.48)	(0.50)	(0.42)
Tertiary	0.19	0.26	0.10	0.36	0.15	0.09	0.13	0.06	0.06	0.36	0.16	0.08
	(0.39)	(0.44)	(0.30)	(0.48)	(0.36)	(0.28)	(0.33)	(0.23)	(0.23)	(0.48)	(0.36)	(0.27)
Experience of first significant job												
Had a first significant job	0.75	0.86	0.68	0.66	0.80	0.71	0.84	0.71	0.48	0.84	0.83	0.67
	(0.43)	(0.34)	(0.47)	(0.47)	(0.40)	(0.45)	(0.37)	(0.45)	(0.50)	(0.37)	(0.37)	(0.47)
Average occupational status of first	43.2	45.2	41.8	43.7	43.2	44.3	41.5	43.6	40.7	43.7	44.5	40.7
significant job (ISEI)	(14.4)	(16.2)	(16.5)	(16.7)	(14.5)	(15.2)	(14.2)	(14.5)	(14.7)	(16.1)	(15.3)	(13.7)

the countries examined, the percentages of young people with at least upper-secondary education are higher than the percentages of parents with the same level of education.[10]

Looking at the occupational outcomes of young people who recently left education or training, it is clear that their labour market integration varies widely among different countries. Thus, there are countries in which around two-thirds of the education leavers experienced a first significant job (the Southern European countries, Finland and Slovakia). Romania shows the lowest figure: slightly less than half of its education leavers entered a first significant job. These proportions are higher in all the remaining countries (ranging from 0.75 in Austria to 0.86 in Belgium). Among those who acquired a first significant job, overall average occupational status of young people does not vary widely among the countries under examination (between 41 and 45 points in the ISEI classification).

6 Social origin and young people's educational outcomes

6.1 Intergenerational educational mobility

The absolute rates of mobility or stability between parents' and children's educational attainment presented in Table 2 show that in five countries (Belgium, France, Greece, Italy and Spain), upward mobility, that is children having increased their educational level compared with their parents, is more prevalent (or equally possible in the case of Italy) than stability (that is children having reached the same level of education as their parents). In all the other countries, young people have mainly achieved the same levels of education as their parents. Moreover, in all countries, downward mobility is restricted to a limited proportion of young people.[11] Gender differences in the rates of mobility between parents' and children's educational attainment are quite remarkable. In most countries, the chances of upward inter-generational educational mobility are significantly higher for women than for men (with the exception of Austria, Romania and Slovakia).

In the following sections we measure the effect of parental education on young people's educational attainment analysing two possible outcomes: early school leaving (at ISCED 1-2)

[10] Surprisingly, in three countries, Austria, Finland and Sweden, the percentage of tertiary graduates is higher among parents than among children. This may be due to the fact that we are referring to the first leaving of education for children and the highest educational attainment for parents at the time of the interview (except for Austria), In these countries returning to education after a break may be more frequent than in other countries and this may partly explain the higher percentages of tertiary graduates among parents. In Austria, the question in the ad hoc module asked for the highest educational level of parents when respondents were 15 years old.

[11] The only exceptions are Austria, Finland and Sweden due to the high percentages of parents who have achieved a tertiary qualification compared to their children.

and tertiary graduation (ISCED 5-6). These analyses are aimed at studying cross-country differences in the strength of the association between social origin and young people's chances of leaving education with only compulsory education or less and of graduating from tertiary education.

Table 2: Absolute rates of stability, upward and downward mobility between young people's educational attainment and their parents' educational attainment (percentages)

	Stability			Upward mobility			Downward mobility		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Austria	52	52	52	26	26	25	22	22	22
Belgium	43	40	46	46	51	41	11	9	13
Finland	40	40	40	31	34	27	29	26	33
France	40	38	43	49	53	45	10	9	13
Greece	33	30	36	60	63	57	6	6	7
Hungary	63	63	62	25	26	24	12	11	14
Italy	46	43	47	46	49	42	8	8	10
Romania	62	62	63	29	30	28	9	8	9
Sweden	43	42	42	29	32	24	28	26	34
Slovania	48	43	51	39	46	32	13	10	17
Slovakia	75	75	74	19	19	19	6	6	7
Spain	42	37	47	53	59	46	5	4	7

Note: some rows do not exactly sum to 100% because the percentages have been rounded to the nearest whole figure.

6.2 Early school leaving

Table 3 shows the percentages of early leavers by parents' educational attainments (outflow percentages). In all countries, with the exception of Finland, the percentages of young people with low educated parents leaving education at an earlier stage are much higher than the percentages of young people who have more educated parents. In 7 of the 12 countries under examination (Belgium, Spain, Finland, France, Greece, Italy and Slovenia), among young people with the low educated parents (ISCED 1-2) women are significantly less likely than men to leave education at lower secondary level. In the remaining countries, women's chances of leaving education early do not significantly differ from those of men.

Table 3: Early school leavers (ISCED 1-2) by parents' highest educational attainment (percentages)

	Parents' highest educational attainment								
	ISCED 1-2			ISCED 3-4			ISCED 5-6		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Austria	24	26	22	13	14	12	10	8	12
Belgium	26	20	32	12	10	14	3	3	3
Finland	13	10	16	15	13	17	8	7	8
France	26	24	29	17	15	19	6	5	7
Greece	20	16	24	8	5	10	6	.	(9)
Hungary	33	35	32	9	9	10	3	.	(4)
Italy	38	34	42	19	15	22	11	10	12
Romania	47	47	47	14	14	14	.	.	.
Sweden	18	18	19	12	11	13	10	.	13
Slovania	10	(7)	14	8	(6)	9	.	.	.
Slovakia	14	14	15	2	2	2	.	.	.
Spain	40	33	47	21	14	27	11	8	14

The results of the binomial logit estimation presented in Table 4, Model 1, show that, controlling for the effect of gender and parents' education, the chances of young people dropping out at the lower-secondary level is highest in Spain (the reference category), Italy and Romania and lowest in Greece, Slovenia and Slovakia. In all countries there are clear differences among young people from different social backgrounds but the relative advantage of having more educated parents varies significantly across countries (Model 2). Thus, the relative advantage of having parents with upper-secondary or tertiary education in reducing the chances of early leaving is largest in Belgium and the Eastern European countries (with the exception of Slovenia) and smallest in the Nordic countries (Sweden and Finland). In Austria, France and the Southern European countries (Spain, Italy and Greece), the relative advantage is between that observed in the Eastern European and Nordic Countries, with no significant differences among the Southern European countries. These results are confirmed when controlling for country differences in the effect of gender on young people's chances of early school leaving (that is, including the interaction effects between gender and country in addition to the effects already contained in Model 2; results not shown).

Table 4: Binomial logit estimations of the chances of dropping out at lower-secondary level (or earlier) and of graduating from tertiary education

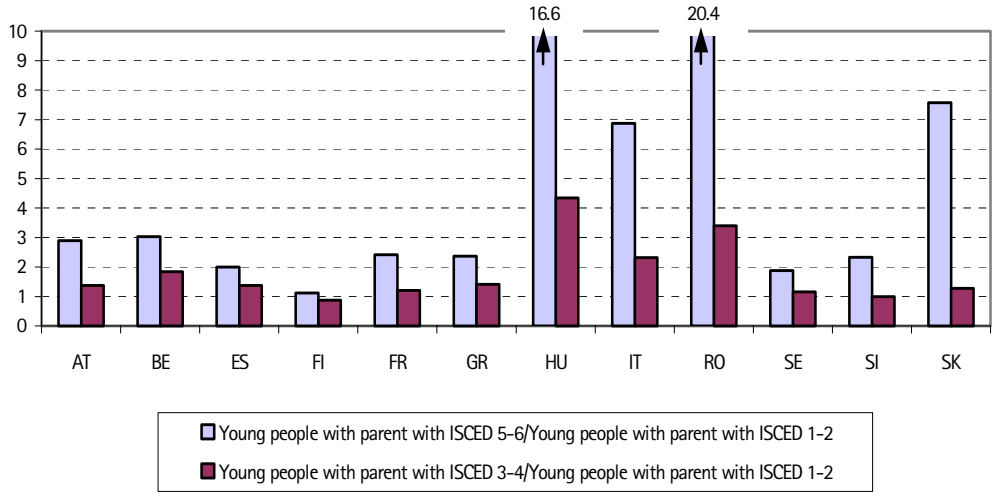
	Dropping-out at lower-secondary level/Continuing studying		Graduating at tertiary level/dropping out earlier	
	Model 1	Model 2	Model 1	Model 2
Intercept	-0.22***	-0.23***	-0.70***	-0.70***
Female	-0.35***	-0.35***	0.40***	0.41***
Parents' education (ref. Lower-secondary education or less)				
Upper-secondary education	-0.97***	-0.92***	0.49***	0.57***
Tertiary education	-1.71***	-1.65***	1.77***	1.62***
Country (ref. Spain)				
Austria	-0.59***	-0.74***	-2.33***	-2.07***
Belgium	-0.69***	-0.63***	-0.46***	-0.69***
Finland	-0.72***	-1.49***	-1.20***	-0.24**
France	-0.51***	-0.61***	-0.46***	-0.39***
Greece	-1.00***	-0.98***	-0.87***	-0.82***
Hungary	-0.63***	-0.28***	-1.90***	-3.00***
Italy	-0.08***	-0.08**	-1.93***	-2.20***
Romania	-0.05	0.27***	-2.13***	-2.97***
Sweden	-0.66***	-1.06***	-1.52***	-1.00***
Slovenia	-1.43***	-1.73***	-1.37***	-1.02***
Slovakia	-2.05***	-1.39***	-2.31***	-2.32***
*Country*parents' education*				
Austria*upper-secondary		0.13		-0.21
Austria*tertiary		0.59***		-0.39*
Belgium*upper-secondary		-0.02		0.34**
Belgium*tertiary		-0.74**		0.47***
Finland*upper-secondary		1.08***		-0.78***
Finland*tertiary		1.06***		-1.45***
France*upper-secondary		0.34***		-0.29***
France*tertiary		-0.12		0.16*
Greece*upper-secondary		-0.19		-0.09
Greece*tertiary		0.24		-0.30**
Hungary*upper-secondary		-0.64***		0.97***
Hungary*tertiary		-1.05***		1.79***
Italy*upper-secondary		-0.06		0.37***
Italy*tertiary		0.04		0.83***
Romania*upper-secondary		-0.78***		0.72***
Romania*tertiary		-3.02***		2.31***
Sweden*upper-secondary		0.40*		-0.38*
Sweden*tertiary		0.93***		-0.72***
Slovenia*upper-secondary		0.58**		-0.55***
Slovenia*tertiary		0.29		-0.39*
Slovakia*upper-secondary		-1.22***		-0.32
Slovakia*tertiary		-1.49*		0.91***
-2 Loglikelihood	80117.229	79550.184	83374.516	82423.185

* significant at 0.05 level; ** significant at 0.01 level; *** significant at 0.001 level
Reference categories: Spanish young people, men and those parents with lower-secondary education or less.
Total number of cases: 71564

6.3 Tertiary graduation

Having examined the chances of early leaving, we now move on to examine the chances of leaving from tertiary education among young people with different social backgrounds. The odds ratios of graduating from tertiary education show that young people with highly educated parents always have a higher chance of graduating than children with less educated parents (Figure 1).

Figure 1: Odds ratios of graduating from tertiary education



The countries which show comparably low levels of tertiary leavers (i.e. Hungary, Italy, Romania and Slovakia) are also those where the gap between young people with different social backgrounds is wider.[12] The models presented in the third and fourth columns of Table 4 test for the significance of the differences found at descriptive level. Parents' education has a strong significant effect on the chances of leaving at the tertiary level, thus, young people with highly educated parents have significantly higher chances of gaining a tertiary qualification (Model 1). Moreover, even controlling for the effect of gender and social background, young people in Austria, Slovakia, Romania, Italy and Hungary show a much lower likelihood of graduating from tertiary education. With the exception of Austria, the relative advantage of having more educated parents (Model 2) is significantly higher in those countries where the proportion of tertiary graduates is

[12] No gender differences have been found in the odds ratios of graduating from tertiary education among people who have low and highly educated parents.

particularly low (Slovakia, Romania, Italy and Hungary). As in the case of early school leaving, the relative advantage of having highly educated parents is also relatively high in Belgium, while Spain (the reference category), France and Austria fall in between. At the other end of the scale, in Finland, Sweden and Slovenia, the relative advantages associated with higher social backgrounds are significantly lower.[13] There is again a divide between the Nordic countries (but also Slovenia), which show lower levels of social differentiation, and the Eastern European countries (with the inclusion of Italy and, to a lesser extent, Belgium) which show higher levels of social differentiation in the chances of tertiary graduation.[14]

To summarise, substantial improvements in the educational attainment of young people, when compared with their parents' education, have been made in most countries. In Spain, Italy and Romania, however, the chances of young people dropping out at lower-secondary level are still quite high. As expected, in all countries parental education significantly affects the chances of dropping out early (at lower-secondary level) and of graduating from tertiary education. However, there are significant country differences in the extent to which parental educational attainment affects these chances. Social differences in the chances of leaving education early have been found to be relatively small in the two Nordic countries under examination (Finland and Sweden). In contrast, they are particularly large in the Eastern European countries (with the exception of Slovenia) while the Southern and Central European countries tend to fall in between, with Belgium less equal and Austria and France more equal. At the tertiary level, except for Austria, the countries which have the lowest rates of graduation from tertiary education (Italy, Hungary, Romania, and Slovakia) also show the highest social differences in the likelihood of leaving education with a tertiary qualification. Also at this level, more equal opportunities for young people with different social backgrounds have been found in the Nordic countries.

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[13] As in the previous analysis, the results do not change when controlling for country differences in the effect of gender.

[14] We have also run a conditional logit model of educational transitions (Mare, 1981) which estimates the probabilities of graduating from tertiary education, conditional on prior completion of upper-secondary education. This model considers only people who continued their studies after lower-secondary education and acquired at least an upper-secondary qualification. It excludes people who dropped out of school early. The results do not differ substantially from those presented in the unconditional logit model (table 4, columns 3 and 4).

7 Parents' education and young people's occupational status

The overall average occupational status of young people does not differ substantially across countries (Table 1). However, the dispersion around this average may be more or less pronounced in each country depending on the strength of the effect of young people's educational attainment and social background on their occupational status.

Nowadays, educational attainment is the main determinant of individual occupational positions and larger differences ought to emerge among people with different educational attainments than among people with different social backgrounds. Indeed, Figure 2 and Figure 3 confirm this expectation. In all countries under examination, the gap between less educated young people and the most educated ones in the average occupational status of their first significant job is wider than the gap between young people with lower social backgrounds and those with higher social backgrounds.

Interestingly, the Eastern European countries show a gap among young people with different educational attainments and different social backgrounds that is larger than anywhere else. If in these countries educational credentials are particularly important for the acquisition of better jobs and, at the same time, the acquisition of these credentials is highly affected by social background factors, then the reproduction of inequalities between

Figure 2: Average occupational status of the first significant employment among young people with different educational attainment levels

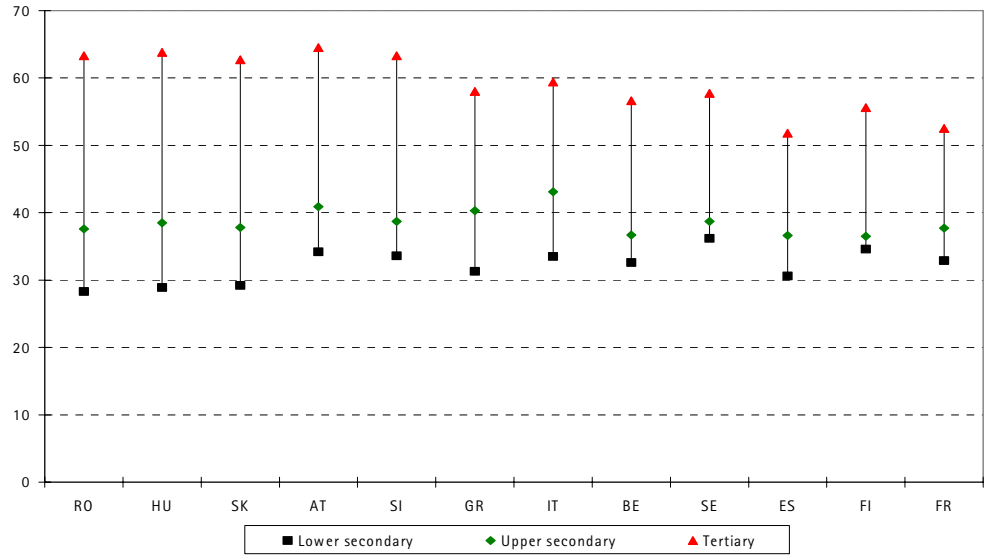
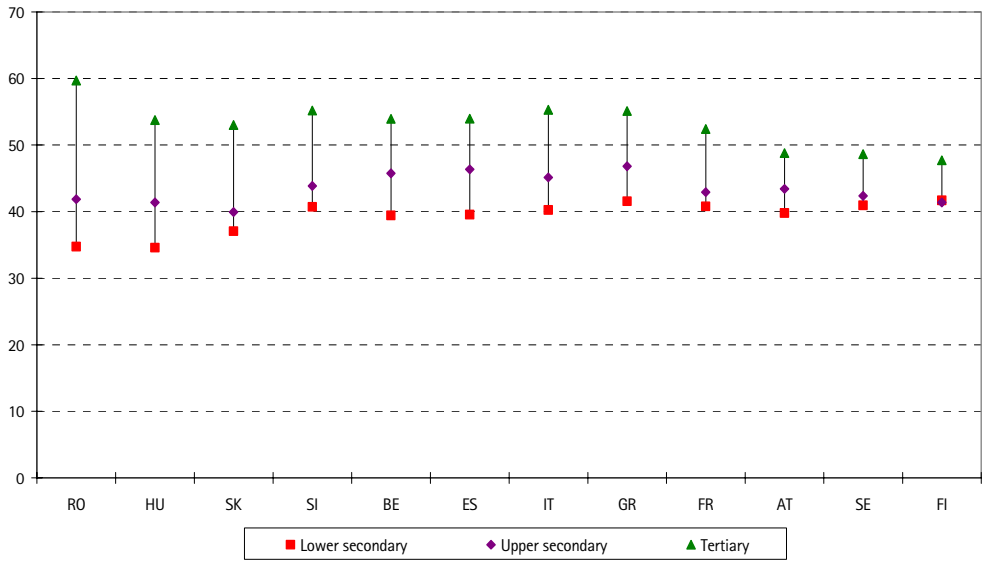


Figure 3: Average occupational status of young people by parents' educational attainment



generations is likely to be strongly linked to the possession of various levels of education. This issue is addressed in the second research question of this paper. In the countries under examination, is the social advantage of having a highly educated parent transmitted mainly via the acquisition of higher educational qualifications (i.e. indirect effect of parental education)? Or is there a significant (direct) effect of social origin even when controlling for young people's educational attainment?

The results of the pooled sample of countries (Table 5) show that the effect of parental education is strong and significant even after controlling for the effect of gender (Model 1) and educational attainment (Model 2). Thus, a direct effect of parental education on young people's destinations does emerge. However, the strength of the association between parental education and children's occupational status is reduced by approximately half when controlling for educational attainment.

Table 5 also indicates that the occupational status of young people's first significant job is particularly high in Italy, Austria, Greece and Slovenia. In contrast, young people in Spain, Finland and France have lower chances of acquiring a high occupational status at the time of first entry into the labour market.

Do countries differ in the extent to which differences in social origin affect young people's occupational position? We present, graphically plotted, the average increase in the occupational status linked to having a parent with upper-secondary and tertiary education

Table 5: OLS regression of occupational status of first significant job

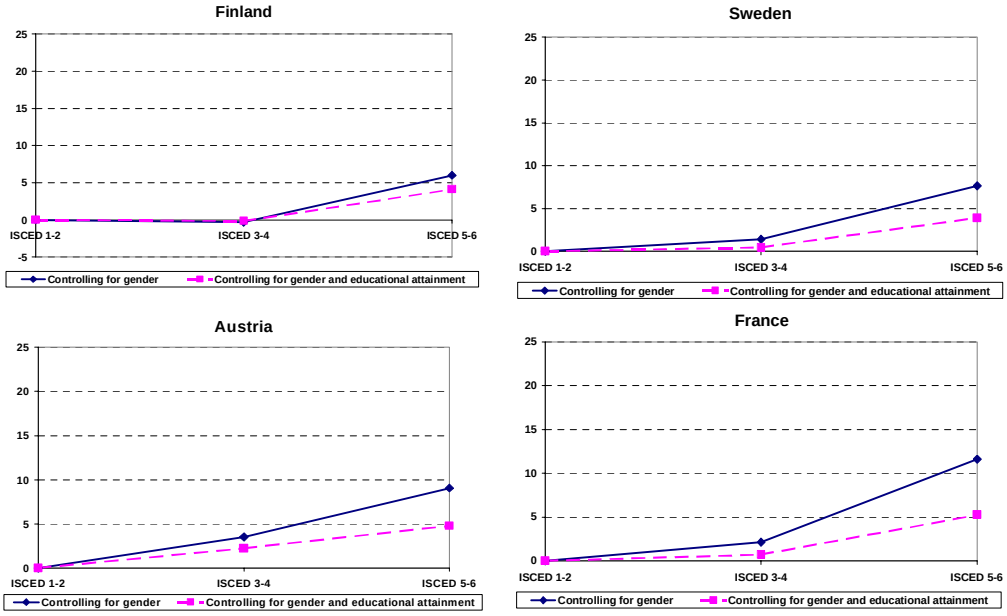
	Model 1	Model 2
Intercept	38.28***	28.46***
Female	3.63***	1.95***
Parents' education (ref. Lower-secondary education or less)		
Upper-secondary education	4.35***	2.29***
Tertiary education	13.47***	6.42***
Young people's educational attainment (ref. Lower-secondary education or less)		
Upper-secondary		5.50***
Tertiary		22.16***
Country (ref. Spain)		
Austria	-1.38***	4.49***
Belgium	0.31	1.04***
Finland	-2.96***	-0.40
France	-0.36	0.33*
Greece	1.82***	3.98***
Hungary	-3.05***	2.22***
Italy	0.77***	6.14***
Romania	-2.70***	2.01***
Sweden	-2.40***	1.75***
Slovenia	0.27	3.62***
Slovakia	-3.87***	1.55***
R square (adjusted)	0.102	0.371

* significant at 0.05 level; ** significant at 0.01 level; *** significant at 0.001 level
Reference categories: in Model 1, Spanish young people, men and those parents with lower-secondary education or less and in Model 2, also those who achieved only lower-secondary education or less.
Total number of cases: 60879

(Figures 4-15). These results are derived from the OLS regression estimations carried out separately in each country. The two lines in each graph represent the gross (correspondent to Model 1) and the net effect (after controlling for respondents' educational attainment, correspondent to Model 2) of parental education. Three distinct groups of countries emerge. In the first group, made up of the Nordic countries (Finland and Sweden), Austria and France, the effect of parental education (both direct and indirect) is less than anywhere else (Figures 4-7). Indeed, these countries show the lowest increase in average occupational status when comparing young people with parents with upper-secondary or tertiary education to young people with parents with only lower-secondary education or less.

The second and larger group of countries is composed of the Southern European countries (Greece, Italy and Spain), Belgium, Slovenia and Slovakia (Figures 8-13). They show a gross effect of parental education on children's occupational status which is higher than that of

Figures 4-7: OLS regression effects of parental education on young people's occupational status



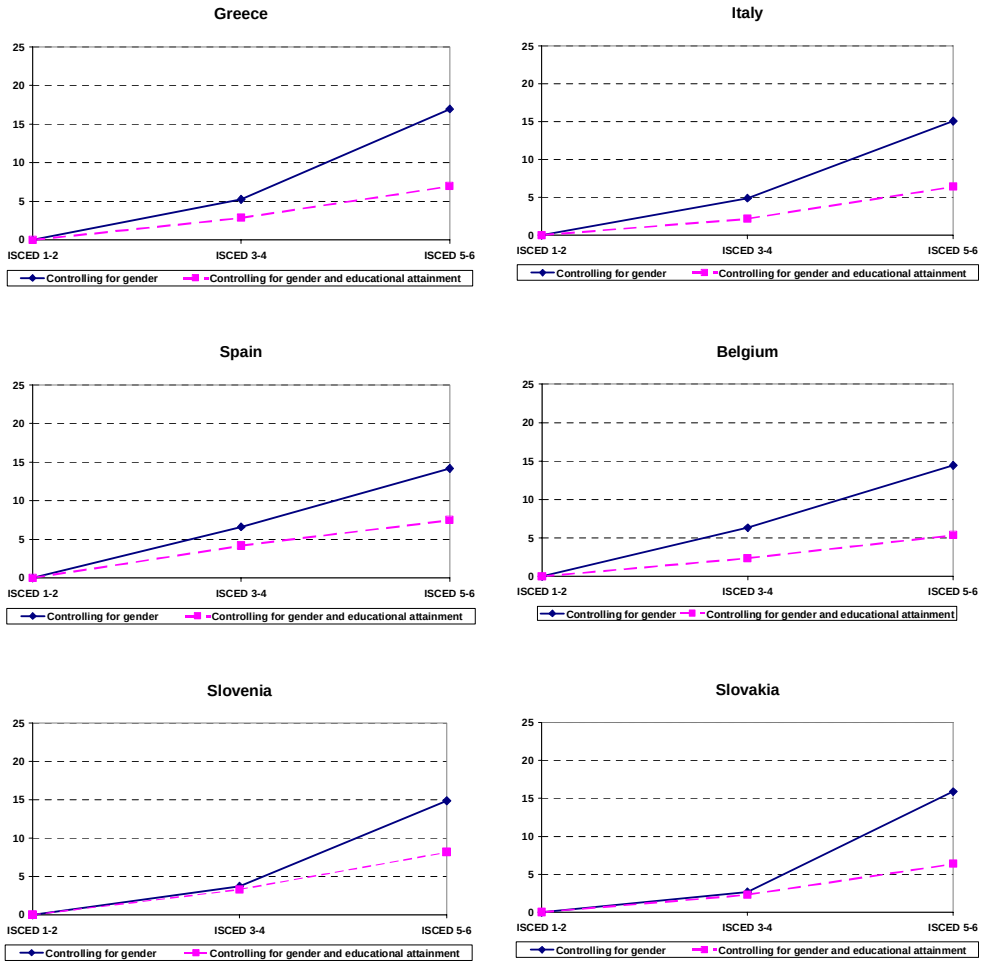
the first group of countries. However, they differ from each other in the extent to which the effect of parental education is mediated by young people's educational attainment (see the lower line in the graphs).[15]

The third group is composed by two countries, Hungary and Romania (Figures 14-15). In these countries, the effect of parental education is particularly strong when compared to the other countries. This is especially true for the gross effect of parental education which is higher than anywhere else.

In general, country differences in the gross effect of parental education are much larger than country differences in the net effect of parental education. Indeed, after controlling for individual's educational attainment, the effect of parental education becomes much smaller, though it still remains significant. Table 6 summarises these results and presents the percentage reduction in the effect of parental education when controlling for the effect of individual's educational attainment (i.e. percentage reduction between the coefficients of Model 1 and Model 2 of the country OLS regression estimations).

[15] For example, for Spain and Slovenia the lower line in the graphs is closer to the upper line than for the other countries within the same group, indicating that in these countries the advantages of parental education are mediated less through their children's education and appear to operate more directly.

Figures 8-13: OLS regression effects of parental education on young people's occupational status



Figures 14-15: OLS regression effects of parental education on young people's occupational status

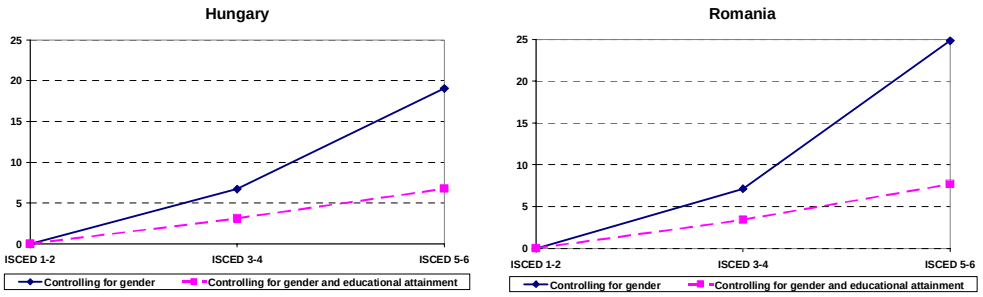


Table 6: Predicted average increase in the occupational status for young people having parents with tertiary education compared to those with parents with lower-secondary education or less

	Model 1	Model 2	% reduction in the effect of parental education from Model 1 to Model 2
Romania	24.86	7.68	69.1%
Hungary	19.05	6.77	64.5%
Greece	16.96	6.96	59.0%
Slovakia	15.89	6.37	59.9%
Italy	15.07	6.41	57.5%
Slovenia	14.87	8.17	45.1%
Belgium	14.45	5.36	62.9%
Spain	14.19	7.49	47.2%
France	11.06	5.25	54.7%
Austria	9.05	4.79	47.1%
Sweden	7.64	3.92	48.7%
Finland	5.99	4.12	31.2%

A strong correlation clearly emerges between the size of the gross effect and the extent to which the effect of parental education is mediated through education. In the countries with the largest gross effects of parental education (Romania and Hungary) most of these effects appear to be generated *via* educational attainment of children, while in the countries with the smallest gross effects (Finland and Sweden) relatively little inequality appears to be generated *via* education.[16] At the top of the list of countries in which the level of parental education most strongly shapes the occupational attainment in young people's first significant job are the countries where – as seen before – the association between children's education and parents' education is strongest. In contrast, in Finland, Sweden, Austria and France, where the effect of parental education on children's educational attainment is smaller, parental education has less influence on children's early occupational attainment. The level of social inequality in the educational system thus appears highly consequential for the intergenerational reproduction of inequality.

To summarise, the main findings reported in this section show that the differences in occupational status of first jobs are larger among young people with different levels of

[16] Moreover, even though country variations in the net effect of parental education are smaller than in the gross effect, the net effect of parental education appears to be significantly larger in the Eastern and Southern European countries and smaller in the Northern and Central European countries (see column 2 of table 6).

educational attainment than among young people with different social backgrounds. Moreover, a large part of the effect of parental education is mediated by the acquisition of different levels of education. This means that young people with highly educated parents have greater chances of acquiring higher educational qualifications which are crucial credentials for securing better occupational destinations. The results show that there is also a significant direct effect of parental education (that is, after controlling for the effect of individuals' educational attainment) on young people's occupational status in all countries under examination.

As is the case for the results found in the analysis of the effect of social background on young people's educational attainment, in the Nordic countries the effect of parental education is smaller and in two of the Eastern European countries, Hungary and Romania, the effect is significantly larger than in the other countries. Moreover, in these latter countries the effect of parental education on occupational destinations is mainly indirect, that is mediated by education.

8 Conclusions

The present paper examines social reproduction in educational attainment and the role of education as an intermediary factor in the reproduction of social differences in occupational destinations across twelve European countries. The analysis uses new data collected at the European level (the EU LFS 2000 ad hoc module) which contain information on school-to-work transitions. Specifically, we used information on the highest level of education or training successfully completed by father or mother, the highest level of education completed when respondents left continuous education, and occupational status of respondents' first significant job. Supported by previous research and by the existing theories on the mechanisms through which social advantage continues to be transmitted, we expected to find a significant effect of social background on young people's educational attainment and early occupational status in all countries. However, the strength of this effect was expected to vary across countries due to the differences, including institutional differences, that shape educational and labour market attainment in the countries under examination.

The results showed that, indeed, parental education still affects young people's educational outcomes. However, social differences in the chances of dropping out from school early have been found to be smaller in the two Nordic countries (Finland and Sweden) and larger in the Eastern European countries (with the exception of Slovenia). At tertiary level, Hungary, Italy, Romania and Slovakia, the countries which have the lowest rates of graduation from tertiary education (together with Austria), show the highest social differences in the likelihood of leaving education with a tertiary qualification. The Nordic countries show more equal opportunities for young people with different social backgrounds to reach the highest levels of education.

In the analysis of the effect of parental education on young people's early occupational destinations, it emerged that in all countries there are significant direct and indirect effects of parental education on young people's destinations. Overall, half of the association between parental education and children's occupational status can be explained by the association between parents' education and young people's education. However, in most countries, and especially in Hungary and Romania, the indirect effect of social background is stronger than the direct effect. This means that young people from more advantaged social backgrounds are more likely to acquire higher educational qualifications which in turn guarantee them better occupational destinations.

The analyses on the effect of parental education on young people's educational and occupational outcomes have revealed very interesting similarities and differences among groups of countries. The relative advantage of having more educated parents emerges as stronger in the Eastern European countries and weaker in the Nordic European countries. This is not a surprising finding if it is examined in conjunction with the existing literature on these countries. The expansion of education, together with policies offering a more universal type of Welfare State, may have decreased, though not cancelled out, social inequalities in the Nordic countries. On the other hand, earlier research on state-socialist societies has already shown that an equalisation of educational and labour market opportunities between working class and middle class children was partly achieved in the early stages of the communist regimes, while later developments towards more equality have eroded. Moreover, in the transition to a capitalist economy, which is the period when the young people in our sample left continuous education, these countries experienced an increase in social and economic disparities. This may have led to a sharpening of educational and occupational inequalities among young people with different social backgrounds. The other Western European countries fall between these two groups, with little variation among the Southern European countries. The relative advantage of having more educated parents on young people's educational and occupational achievement is similar among these countries (with the exception of Italy in the analysis of young people's chances of tertiary graduation). According to the present data, Austria, Belgium and France appear more heterogeneous, with Austria and France being closer to the more equalitarian countries and Belgium closer to the less equalitarian countries.

The lack of additional information on social background (e.g. parents' occupational class or economic well-being) and on respondents' educational attainment (e.g. type of education attended, vocational or general) requires a very cautious assessment of the present results. We were not able to study in detail the mechanisms by which social differences are reproduced in different countries. Moreover, for both a more comprehensive European assessment and a more systematic interpretation of the results, the analyses would need to include other countries, such as the other Nordic countries, Germany, UK and Ireland. This might help corroborate results and to identify the factors responsible for the similarities and

differences found among the countries. Thus, the collection of more extensive comparable data is highly desirable in order to improve our knowledge of the crucial issue of varying levels of social inequality in European societies.

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Gender Differentiation and Early Labour Market Integration across Europe

Emer Smyth

Abstract

This chapter examines gender differentiation in early labour market outcomes across European countries. In spite of the fact that the educational attainment of women has now surpassed that of men in many countries, differences persist in the type of educational courses taken by young women and men. Countries differ in the extent of educational segregation by gender but certain regularities are evident, with health/welfare, education and arts courses dominated by women and engineering courses dominated by men. Countries with higher levels of educational segregation by gender are found to have higher levels of occupational segregation by gender. However, marked gender differences are still apparent between women and men who have received the same kind of education, regardless of the country considered.

Table of Contents

1 Introduction

Recent decades have seen an expansion in educational attainment among young women to the point where female educational attainment surpasses that of young men in many European countries (Müller and Wolbers, 1999; OECD, 2002). However, considerable gender differentiation persists in the kinds of courses taken and in the kinds of occupations entered by young people leaving full-time education. Occupational segregation by gender has been found to vary across countries and over time (see, for example, Blackwell, 2001). However, much attention has been focused on the appropriate measure of occupational segregation (see, for example, Siltanen et al., 1995) with a relative neglect of the processes shaping (cross-national variation in) segregation levels.

A number of different theoretical perspectives have been used to explain the persistence of occupational segregation by gender. From a human capital theory perspective, occupational segregation is taken to reflect the fact that women choose jobs which will not penalise (anticipated) labour market discontinuity (Mincer and Polacheck, 1974). However, this perspective has generally not specified the empirical relationship between 'penalties' for interruptions and (changes in) the feminisation of particular occupations. Initial formulations of the institutional perspective (for example, Maurice et al., 1986) have been criticised for being 'gender-blind' (O'Reilly, 1996) and analysis of national systems from a gender perspective have tended to focus more on overall levels and patterns of female labour force participation rather than gender differences in types of employment. A Dutch study has indicated the role of one aspect of the institutional structure, differentiation into different tracks or fields of study, in shaping occupational segregation levels with gender-typing of field of study found to be significantly associated with gender-typing of occupation (Borghans and Groot, 1999). Applying a comparative perspective, Buchmann and Charles (1995) propose that where educational choices are made at an early age, they are more likely to be gender-typical and that this feature, coupled with strong education-labour market linkages, means that segregation is likely to be more pronounced in countries with highly differentiated, vocationally-oriented systems. However, Buchmann and Charles were unable to empirically test their hypothesis. An exploration of the institutional context within which employment patterns are formed would, therefore, appear to represent a useful direction in explaining labour market segregation (see also Rubery and Fagan, 1995).

This contribution sets out to examine the extent to which an institutional perspective yields insights into the processes shaping gender differences in early labour market integration in general and occupational segregation in particular. It uses data from the Eurostat ad hoc module on school-to-work transitions to examine gender differentiation in educational outcomes and labour market entry patterns across Europe and they way in which the nature of gender differentiation may be constructed within different social, economic and cultural

contexts (see, for example, Connell, 1987; Rubery and Fagan, 1995). The main research questions addressed are as follows:

1. How do European countries differ in the level and nature of education achieved by young people?
2. Is the nature of gender differentiation in early labour market integration similar across European countries?
3. To what extent is gender differentiation in early labour market integration due to differences in the level and type of education obtained by young women and men?
4. To what extent does gender segregation in the type of education translate into gender segregation in occupational outcomes?

Three sets of hypotheses are tested:

1. The type of differentiation evident within the education/training system will influence the nature of gender differences in educational outcomes. More specifically, in systems with a high level of track differentiation, clear gender differences are likely to be apparent in the type of education received by women and men.
2. The type of differentiation evident within the education/training system will influence the nature of gender differences in transition outcomes. More specifically:
   - Occupational segregation by gender will be more evident in track-differentiated systems if strong gender differences are apparent in the field of education followed.
   - In track-differentiated systems, gender segregation in labour market outcomes will tend to be mediated by the type of course taken. Thus, young women will enter female-typed occupations or industries because they have taken part in courses oriented towards such outcomes.
   - In contrast, in more general systems, gender differences will arise in the interaction between occupational choice and employer preference on entry to the labour market. Thus, direct gender effects on occupational allocation should be stronger in general than in track-differentiated systems.
3. Different dimensions of gender differentiation are not necessarily interrelated. For example, gender segregation may act as a protection against unemployment for female labour market entrants in a context where unemployment rates are lower in 'female' occupations. Conversely, young women entrants may be excluded from the labour market if the occupational structure is highly segregated and 'female' jobs are already over-crowded.

The following section describes the data and measures used in the remainder of the paper.

2 Data and methodology

The paper draws on the EU LFS ad hoc module on school-to-work transitions excluding data on Ireland, Latvia, Lithuania and Luxembourg for reasons of comparability (see Iannelli, 2002). An innovative feature of the ad hoc module on transitions was the collection of information on the field of education studied by young people before leaving education. However, some problems relating to comparability arose in the implementation of the module (see Iannelli, 2002). In Denmark, Italy, Portugal and the United Kingdom the information on field of education related to the highest level of education completed rather than the level when leaving education for the first time. For this reason, most analyses in the paper exclude these countries.

The paper focuses on a number of different dimensions of early labour market experiences among young women and men. Firstly, the proportion of young people who have obtained a first significant job by the time of the interview is taken as an indicator of successful labour market integration. 'First significant job' refers to a job that has lasted at least six months and is more than twenty hours a week. For the purposes of the paper, young people who described themselves as not having had a first significant job but had been in employment for six months or more are reclassified as having had a first significant job. Analyses of labour market integration are supplemented with analyses of labour force participation and current unemployment. Secondly, measures of educational and occupational segregation are derived using an index of dissimilarly in order to compare the levels of segregation across countries. Thirdly, the paper focuses on the extent to which young women and men enter predominantly male, mixed or predominantly female occupations. Fourthly, occupational status is measured using the International Socio-economic Index (ISEI) scale (see Ganzeboom and Treiman, 1996). Finally, occupational upgrading is based on the extent to which young people have increased their occupational status between their first significant job and their current job.

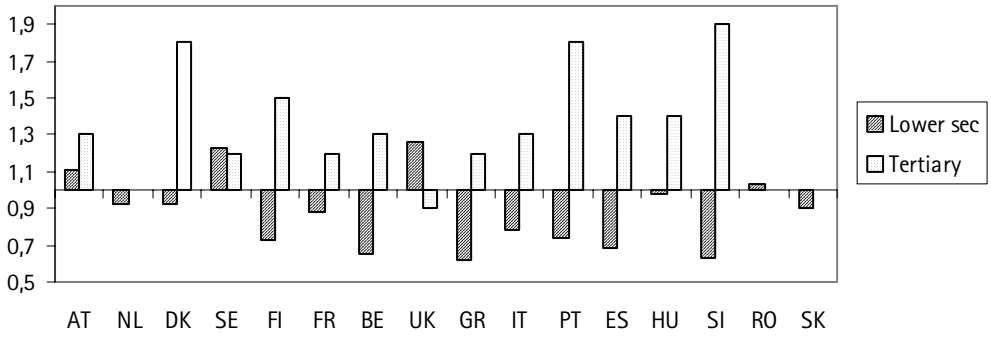
Analyses of labour market integration, labour force participation, unemployment and occupational upgrading use a series of logistic regression models. Analysis of gender-typing of occupation uses a multinomial logistic regression model. Analysis of occupational status uses linear regression modelling techniques. In all of the models, the focus is not on country differences per se but rather on the relative size of gender differences across the different European countries analysed. For the most part, Spain is used as the base category in the analyses due to the data quality and relative lack of missing information.

The paper opens by discussing differences across European countries in the level and type of education obtained by young women and men.

3 Educational attainment among young people

Recent decades have been characterised by considerable educational expansion across Europe, particularly among young women. In some European countries, female educational attainment (in terms of educational level) has now surpassed that of men (Müller and Wolbers, 1999). Figure 1 indicates female representation by lower secondary and tertiary levels in the countries concerned. This is derived from the ratio between the proportion of females at a particular educational level and the proportion of males at that level. A ratio greater than one indicates the over-representation of women in a particular educational category while a ratio below one indicates under-representation.

Figure 1: Female representation by level of education



Three groups of countries emerge from the data. In the first group, female leavers are relatively advantaged in terms of their educational attainment; that is, they are significantly underrepresented among lower secondary leavers and over-represented among tertiary leavers. Countries in this group include Belgium, Spain, Finland, Greece, Italy and Portugal. In the second group, a higher proportion of females than males leave at the tertiary level but there is no significant difference in their distribution between the lower and upper secondary levels. This group includes Denmark, France, Hungary, and Slovenia. Only in the United Kingdom are young women found to be under-represented among tertiary leavers. In the remaining countries (Austria, the Netherlands, Romania, Slovakia and Sweden), no significant gender differences are found in the educational attainment levels of system leavers.

4 Field of education

In all of the countries considered, significant gender differences were evident in the field of education studied at both upper secondary and tertiary levels.[1] The extent of gender differentiation in type of education can be analysed using an index of dissimilarity measure which indicates the proportion of males (or females) who would need to 'change' fields in order to achieve an equal distribution across categories by gender.[2] Indices of dissimilarity tend to be sensitive to the number of categories considered with more aggregated classifications often concealing gender segregation. Indices are also likely to be sensitive to sample size, in particular to the greater clustering in certain categories potentially found using small samples.

Field of education was classified into twenty-five detailed categories which could be aggregated into nine broad categories. Indices of dissimilarity at upper secondary and tertiary levels were calculated for both classifications: firstly, to allow for the existence of gender segregation within broader categories (for example, the physical sciences may differ in their gender profile from the life sciences); secondly, to increase comparability across countries as in Romania and Sweden only the broader classification was employed; and thirdly, to allow for the fact that apparent segregation at the more detailed level may reflect sampling variation (especially where sample sizes are relatively small) rather than gender segregation per se.

The indices of dissimilarity for both the more detailed and broader classifications are presented in Table 1. At upper secondary level, gender segregation was found to be greatest in Austria, France and Hungary, with the lowest levels found in Greece and Romania. In the case of Greece, the low degree of gender segregation reflects the fact that the majority (62%) of students had taken general courses. In overall terms, gender segregation is somewhat lower in countries where a greater proportion of young people leave the upper secondary level having taken general courses. A correlation of r=-0.74 is found between the proportion of young people in general tracks at upper secondary level and the degree of gender segregation found at this level. At tertiary level, gender segregation was greatest in Austria, Finland and Hungary, and lowest in the Netherlands and Belgium. In general, segregation was found to be greater using the more detailed classification, indicating that broad categories of educational field may encompass subject areas with very different gender profiles.

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[1] Lower secondary education was usually more general in nature so field of education is not considered for those who left from this level.

[2] This is calculated by summing the absolute differences in the proportion of males and females in each educational field and dividing the total by two.

Table 1: Gender segregation by field of education (index of dissimilarity)

Level of education	Upper secondary			Tertiary	
Field categories	Broad	Detailed	% in general courses	Broad	Detailed
Austria	58.9	60.2	9.4	44.5	52.2
Netherlands	38.8	42.2	20.4	26.9	32.1
Sweden	37.8	n.a.	13.9	41.0	n.a.
Finland	35.6	38.1	34.2	44.2	50.1
France	57.6	59.0	2.3	33.1	34.5
Belgium	32.4	33.0	43.5	28.4	35.7
Greece	16.7	17.4	62.9	31.4	32.6
Spain	32.1	32.9	51.5	38.2	40.3
Hungary	47.7	57.7	11.5	41.8	42.4
Slovenia	47.1	54.2	0.4	37.3	46.0
Romania	22.7	n.a.	14.3	38.6	n.a.
Slovakia	43.3	47.2	8.2	38.9	40.5

Fields of education were classified in terms of their 'female-intensity'; the original intention was to divide fields into 'female-intensive' (>60% female), 'mixed' (40-60% female) and 'male-intensive' (<40% female) subject areas. However, as countries differ in their female representation at the different educational levels, the cut-offs were adjusted accordingly. General courses were assigned to a separate category.

Tables 2 and 3 present the profiles of subjects at upper secondary and tertiary levels. The more aggregated classification is used due to the small numbers in some of the detailed subject areas. There are certain commonalities across countries in the gender-typing of subject areas. In all countries considered, engineering courses at upper secondary level tend to be male-intensive while health/welfare, arts/humanities, education courses and social science/business courses are female-intensive.[3] Science and agriculture courses tend to be male or mixed in profile. In the case of agriculture, the profile appears to be somewhat less male-dominated in the Eastern European countries than in the Western European countries. The gender profile of those taking general and services courses varies by country, although the profile is predominantly female in the majority of countries.

[3] In the latter case, the exception is France where education courses are mixed in profile. However, this pattern should be interpreted with caution since fewer than one per cent of the upper secondary leavers in the sample had taken education courses.

Table 2: Female-intensity of different fields of education at upper secondary level

	Education	Arts	Social/ business	Science	Engineering	Agriculture	Health/ welfare	Services
Austria	F	F	F	M	M	N	F	F
Netherlands	.	.	F	.	M	(M)	F	F
Sweden	F	F	F	M	M	N	F	F
Finland	.	F	F	.	M	F	F	F
France	N	F	F	N	M	M	F	F
Belgium	F	F	F	M	M	M	F	F
Greece	F	F	F	N	M	.	F	N
Spain	(F)	F	F	M	M	M	F	F
Hungary	F	(F)	F	M	M	N	F	F
Slovenia	(F)	(F)	F	(F)	M	N	F	N
Romania	F	F	F	F	N	N	F	N
Slovakia	F	F	F	N	M	N	F	F

Table 3: Female-intensity of different fields of education at tertiary education level

	Education	Arts	Social/ business	Science	Engineering	Agriculture	Health/ welfare	Services
Austria	F	F	N	M	M	M	F	M
Netherlands	N	(F)	N	(M)	M	.	F	.
Sweden	F	F	N	M	M	.	F	.
Finland	F	F	N	N	M	(N)	F	N
France	F	F	N	M	M	M	F	N
Belgium	F	N	N	M	M	N	F	N
Greece	F	F	N	M	M	M	N	M
Spain	F	N	F	N	M	M	F	F
Hungary	F	F	N	M	M	M	N	M
Slovenia	(F)	(F)	F	N	M	(N)	(N)	(M)
Romania	F	F	F	F	M	M	F	M
Slovakia	F	F	F	F	M	M	N	M

M: >60% male, F: >60% female, N: 40-60% female

At tertiary level, health/welfare, arts/humanities and education remain female-intensive while engineering courses remain male-intensive. Social/business courses become more mixed in profile than at upper secondary level while service courses become somewhat more divergent in their gender profile than at upper secondary level.

Therefore, in spite of differences across countries in the type of education taken by leavers, there are certain commonalities in the gender-typing of certain subject areas. In other cases, however, the gender-typing of educational fields is societally specific.

5 Gender differences in labour market integration

Figure 2 shows the proportion of young people who had achieved a first significant job by the time of the interview. It should be noted that a few of the countries (Finland, the Netherlands and Sweden) differ from the others in taking a time-span of five years since leaving education for the first time, a pattern which will have implications for the degree of labour market integration observed. Compared with other countries, those in Romania (male and female) are less likely to have obtained a significant job within ten years of leaving education. In Austria, Belgium, Spain, France, Greece and Hungary, young women are significantly less likely to have entered stable employment than young men. However, as the nature of gender differences varies across the countries examined, it is difficult to disentangle the effects of gender from those of educational level and type.

Figure 2: Proportion who have obtained a first significant job

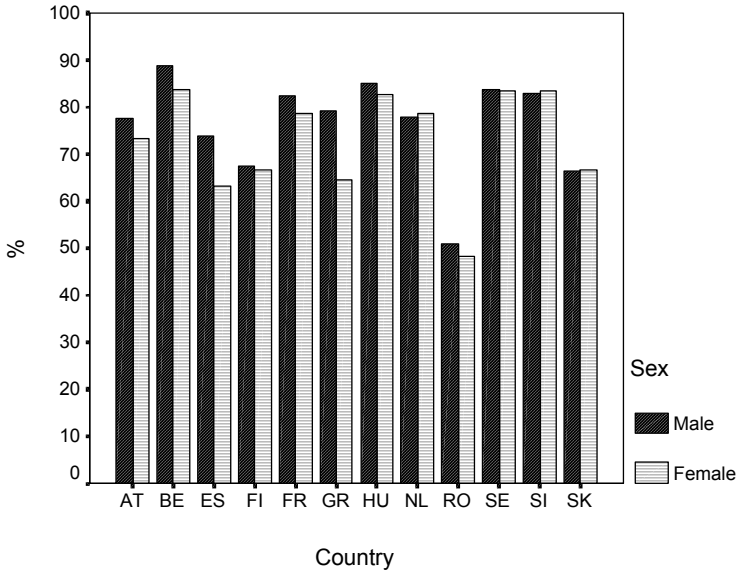


Table 4: Logistic regression model of obtaining a first significant job

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.057	0.140***	-0.176***	-0.046	-0.123	-0.206***
Female (Base: male)	-0.439***	-0.718***	-0.736***	-0.715***	-0.598***	-0.476***
Time since leaving education (months)	0.017***	0.019***	0.020***	0.020***	0.020***	0.020***
***Educational level*:**						
Lower secondary		-0.988***	-0.651***	-0.626***	-0.486***	-0.538***
Tertiary (Base: Upper secondary)		0.714***	0.607***	0.595***	0.650***	0.663***
***Gender*Educational level*:**						
Female*Lower secondary					-0.292***	-0.208**
Female*Tertiary					-0.071	-0.097
***Educational field*:**						
Education			0.514***	0.487***	0.275	0.273
Arts			0.196***	0.143**	0.001	0.009
Social Science			0.471***	0.414***	0.228***	0.230***
Science			0.340***	0.295***	0.222**	0.226**
Engineering			0.472***	0.392***	0.485***	0.482***
Agriculture			0.260***	0.252***	0.422***	0.423***
Health			0.659***	0.589***	0.224	0.214*
Services (Base: General)			0.590***	0.545***	0.656***	0.651***
***Gender*Educational field*:**						
Female*Education					0.234	0.248
Female*Arts					0.187	0.171
Female*Social science					0.244**	0.242**
Female*Science					0.141	0.131
Female*Engineering					-0.351***	-0.334***
Female*Agriculture					-0.399**	-0.389**
Female*Health					0.413***	0.432***
Female*Services					-0.195	-0.182
***Family status*:**						
Has child (Base: no child)				-0.402***	-0.397***	-0.074
Female*Family status						-0.590***
***Educational participation*:**						
Participated in past 4 weeks (Base: did not participate)				-0.646***	-0.642***	-0.651***
Female*Educational participation						-0.007
-2 log likelihood	77082.06	73216.26	71515.82	66640.35	66508.46	66341.46

Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A1).

Table 4 presents a binary logistic regression model predicting the chances of having obtained a first significant job by the time of the interview. A logistic regression model allows us to assess the effect of the explanatory variables on the log odds of obtaining a first significant job. A positive coefficient indicates increased chances of obtaining a first significant job while a negative coefficient indicates reduced chances. Thus, in Table 4 young women are less likely (-0.439) to obtain a first significant job than young men who have spent a similar amount of time on the labour market (Model 1). This coefficient can be transformed into an odds ratio whereby young women are seen to be 0.6 times as likely to obtain a first significant job as young men.

Due to the shorter time span on the labour market observed in Finland, the Netherlands and Sweden, a variable representing time since leaving education (measured in months) is included in the model to correct for these differences. Young women are less likely to have obtained a job by the time of the interview than their male counterparts, even controlling for gender differences in educational level, field, family status and educational participation. As might be expected, educational level is strongly predictive of labour market integration with tertiary leavers 1.7 times more likely to have obtained a job than upper secondary leavers (see Model 2, Table 4). Those leaving at the lower secondary level are much less likely to have obtained a first significant job; this pattern is especially marked for young women (see Model 5).

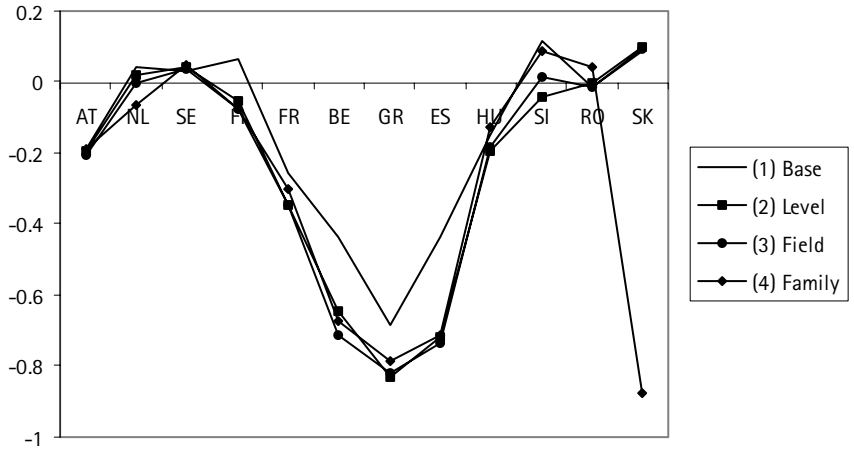
Field of education is predictive of labour market integration (see Model 3). Leavers from all educational fields, especially health, services and education, have a higher chance of obtaining a job than those leaving from general tracks; the effect of having an Arts background is somewhat lower than for the other tracks. The effects of field are found to vary by gender. The returns to taking a social science/business or health course are higher for women than for men while the returns to taking an engineering or agriculture course are lower for women (Model 6).

Young women who have a child are much less likely than other groups to have obtained a first significant job, perhaps because they have already withdrawn from the labour market (see below). Having taken part in an educational course in the previous four weeks is associated with lower chances of having integrated into the labour market; the effect is similar for males and females.

The pattern of labour market integration varies by country with the lowest levels found in the Southern (Spain and Greece) and two of the Eastern European countries (Slovakia and in particular Romania); the highest levels of integration are found in Belgium and Hungary (see Appendix Table A1). However, the concern of this paper is with the way in which gender differences in labour market integration may vary across countries. Figure 3 represents gender differences across countries with the four lines representing the size of these differences (1) without controls, (2) controlling for educational level, (3) controlling for level

and field, and (4) controlling for level, field and family factors, respectively. The values are calculated from Appendix Table A1.[4] Negative values indicate that women are less likely than men (all else being equal) to have obtained a first significant job. There is very little gender differentiation in labour market integration in the Scandinavian countries, the Netherlands and the Eastern European countries (with the exception of Slovakia). In contrast, there are very marked gender differences evident in Belgium and the Mediterranean countries. These differences are not explained by gender differences in educational level, field of education or family status. In fact, the gender gap increases when these factors are taken into account.

Figure 3: Country variation in gender differences in obtaining a first significant job



The relative disadvantage of young women in making the transition to a significant job found in some European countries (especially Belgium, Greece and Spain) may be due to a number of factors including gender differences in withdrawal from the labour force, gender differences in unemployment rates and gender differences in concentration in temporary/intermittent employment. These dimensions are explored in the remainder of this section.

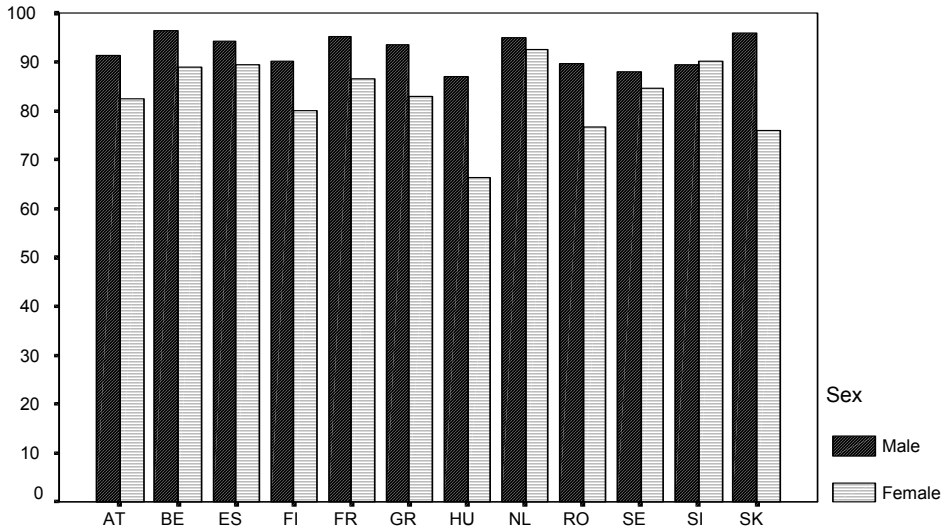
Figure 4 illustrates labour force participation rates at the time of the interview by gender and country.[5] With the exception of the Netherlands and Slovenia, male participation rates

[4] Thus, the value for Austria in line 1 is calculated from the gender coefficient in Table 4 (-0.439) added to the gender*country interaction term for Austria (0.252); this gives the gender difference for Austria.

[5] Those in military service are excluded for the purposes of this analysis.

were significantly higher than female rates in all of the countries studied. The factors influencing labour force participation rates were analysed using a logistic regression model (see Table 5).

Figure 4: Labour force participation rates by gender and country



Female participation rates are found to be lower than male rates, even controlling for educational level and field (see Model 3). Participation is strongly associated with educational level with the lowest levels found among those with lower secondary education and the highest levels found among those with tertiary education. The positive effect of having a tertiary education is found to be somewhat less for women than for men (see Model 5). Leavers from all educational fields have a higher activity rate than those from general tracks. The effects vary somewhat by gender, however, with women who had taken engineering, agriculture or service courses having much lower participation rates than their male counterparts. Having a young child is associated with lower activity rates, but only for women. Similarly, having taken an educational course in the previous four weeks is associated with lower participation rates, indicating that a number of young people have returned to full-time education.

Figure 5 indicates cross-national variation in gender differences in labour force participation levels. Female labour force participation levels are lower than male levels across all European countries, with the exception of Slovenia. The greatest gender gaps are found in the Mediterranean countries, Hungary and the Northwestern countries (Belgium and France). In the case of Belgium, Greece and Spain, therefore, it would appear that the lower levels of

Table 5: Logistic regression model of labour force participation

	(1)	(2)	(3)	(4)	(5)
Intercept	3.111***	3.349***	3.001***	3.394***	-2.980***
Female (Base: male)	-0.801***	-1.035***	-1.034***	-0.993***	-0.395***
Time since leaving education (months)	-0.001	0.001**	0.001	0.003***	0.004***
***Educational level*:**					
Lower secondary		-0.952***	-0.572***	-0.530***	-0.519***
Tertiary		0.742***	0.649***	0.678***	0.876***
(Base: upper sec.)					
*Gender*Educational level*:					
Female*Lower secondary					-0.049
Female*Tertiary					-0.275**
Educational field:					
Education			0.333***	0.315***	0.275
Arts			0.319***	0.225**	0.338*
Social Science			0.604***	0.505***	0.512***
Science			0.289***	0.179*	0.132
Engineering			0.497***	0.354***	0.666***
Agriculture			0.403***	0.327***	0.761***
Health			0.559***	0.497***	0.725***
Services			0.512***	0.408***	0.687***
(Base: General)					
*Gender*Educational field*:					
Female*Education					0.041
Female*Arts					-0.183
Female*Social science					-0.059
Female*Science					0.137
Female*Engineering					-0.636***
Female*Agriculture					-0.656**
Female*Health					-0.288
Female*Services					-0.365*
Family status:					
Has child				-1.070***	-0.085
(Base: no child)					
*Female*Family status*					-1.420***
Educational participation:					
Participated in past 4 weeks				-1.610***	-2.179***
(Base: did not participate)					
*Female*Educational participation*					0.929***
-2 log likelihood	50340.76	47638.21	46624.37	41062.23	40228.95

Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A2).

labour market integration among young women (indicated above) are, at least in part, due to the greater tendency for young women to withdraw from the labour force.

Figure 5: Country variation in gender differences in labour force participation

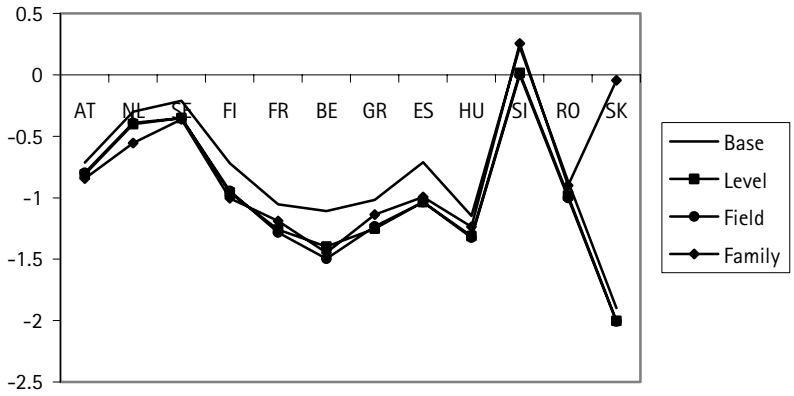


Figure 6 indicates the unemployment rate (that is, the proportion of those in the labour force who were unemployed at the time of interview) by gender and country. In Spain, France, Greece and the Netherlands, female unemployment rates are significantly higher than those found among their male counterparts. The model presented in Table 6 indicates

Figure 6: Unemployment rate by gender and country

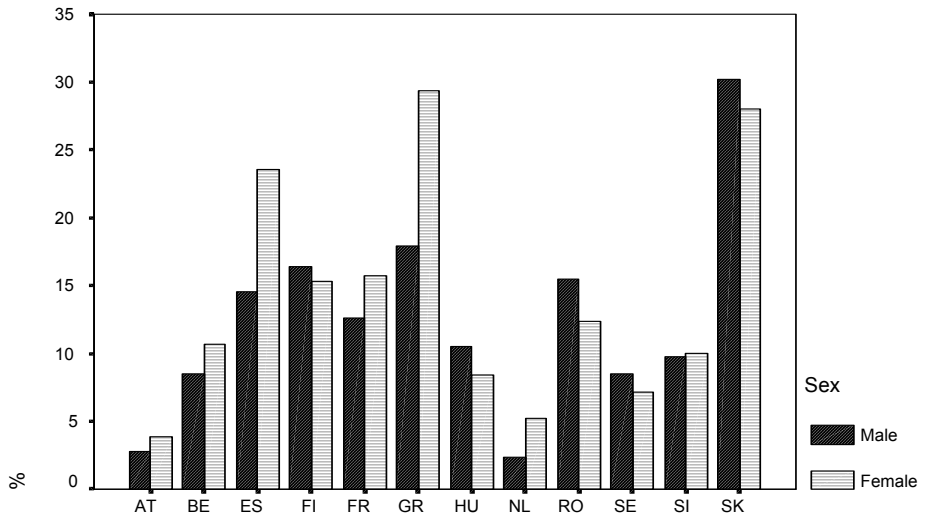


Table 6: Logistic regression model of current unemployment

	(1)	(2)	(3)	(4)
Intercept	-1.131***	-1.056***	-1.005***	-1.035***
Female	0.563***	0.763***	0.762***	0.834***
(Base: male)				
Time since leaving education (months)	-0.011***	-0.013***	-0.013***	-0.013***
***Educational level*:**				
Lower secondary		0.536***	0.493***	0.518***
Tertiary		-0.741***	-0.748***	-0.792***
(Base: upper sec.)				
*Gender*Educational level:*				
Female*Lower secondary				-0.053
Female*Tertiary				0.049
Educational field:				
Education			-0.057	0.273
Arts			0.194**	0.554***
Social Science			-0.010	0.198***
Science			-0.086	0.022
Engineering			-0.087	-0.157
Agriculture			0.010	-0.127
Health			-0.243***	0.001
Services			-0.043	-0.021
(Base: General)				
*Gender*Educational field:*				
Female*Education				-0.427
Female*Arts				-0.542***
Female*Social science				-0.304**
Female*Science				-0.202
Female*Engineering				0.414***
Female*Agriculture				0.391
Female*Health				-0.311
Female*Services				-0.037
-2 log likelihood	52229.368	50393.929	49475.107	49371.245

Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A3).

that young women are more likely to be unemployed than young men, even when gender differences in educational level and field are taken into account.[6]

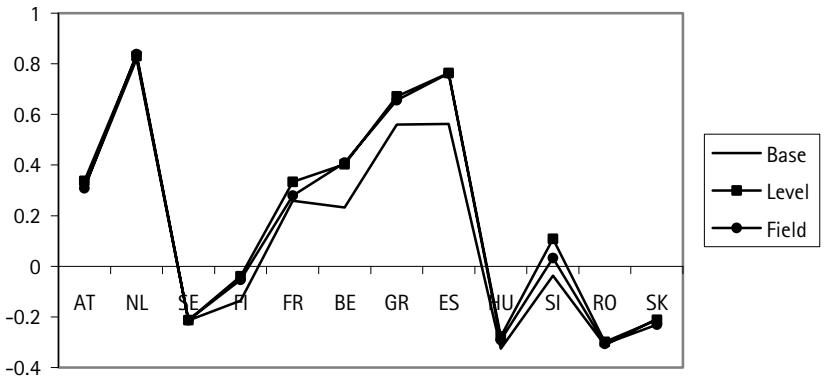
Unemployment is found to decrease with amount of time since leaving education. Lower secondary leavers have the highest unemployment rates while the lowest rates are found among tertiary leavers; the pattern is similar for males and females. Model 3 indicates that unemployment rates are highest among those with an arts education and lowest among

[6] Family status and educational participation are not included in this model because they are expected to influence decisions about remaining in the labour market rather than 'success' within the labour market per se.

those who have taken health/welfare courses. On closer inspection, the pattern is found to vary by gender. An arts or social science background is associated with higher unemployment for males only while women with an engineering background have higher unemployment rates than their male counterparts (Model 4).

Female unemployment rates are the same as, or lower than, male rates in the Eastern European and Scandinavian countries, all else being equal (see Figure 7). In contrast, female rates are much higher than male rates in the Netherlands, Austria, France, Belgium and the Mediterranean countries. In Belgium and the Mediterranean countries, gender differences actually increase when educational level and field is taken into account. In overall terms, the lower chances of labour market integration found among young women reflect not only lower labour force participation rates but also higher rates of unemployment among those who remain within the labour force. The pattern may also be explained by gender differences in the proportion in intermittent employment. Unfortunately, complete work history information indicating the prevalence of intermittent employment is not available from the ad hoc module. However, young women in Greece and Belgium are more likely to be on a temporary contract at the time of the interview than their male counterparts (analysis not shown here).

Figure 7: Country variation in gender differences in current unemployment



6 Occupational segregation by gender

In all of the countries, the distribution across occupational groups differs significantly for males and females. As with educational field, occupational groups were divided into 'female-intensive', 'mixed' and 'male-intensive' categories, adjusting the cut-offs for the representation of women in the workforce in each country. In all countries, senior

managerial, craft and machine operator jobs tend to be dominated by men while females tend to predominate in clerical and service jobs (see Table 7). It should be noted that these broad categories include jobs with very different gender profiles.

Table 7: Female-intensity of different occupational groups

	Senior managers	Profess-ional	Technical	Clerical workers	Service workers	Agricultural workers	Craft workers	Machine operators	Elementary occupations
AT	M	N	N	F	F	M	M	M	N
NL	M	N	N	F	F	.	M	(M)	N
SE	M	N	N	F	F	.	M	M	N
FI	M	F	N	F	F	N	M	M	N
FR	M	N	N	F	F	M	M	M	N
BE	M	F	N	F	F	M	M	M	N
GR	M	F	F	F	N	M	M	M	M
ES	M	F	F	F	F	M	M	M	M
HU	M	F	F	F	F	M	M	N	M
SI	M	F	N	F	F	(N)	M	M	(M)
RO	M	N	F	F	F	N	M	M	M
SK	M	N	F	F	F	M	M	M	M

Note: due to small numbers, the army category is not included in this table.

There has been some debate about the appropriate measure of occupational segregation (see, for example, Siltanen et al., 1995; Kalter, 2000). Here indices of dissimilarity are used and were calculated for ISCO 1-digit, 2-digit and 3-digit occupational groupings.[7] Table 8 indicates that the level of segregation is found to be higher when more detailed occupational groups are used; this reflects the fact that broader occupational groups often contain occupations with very different gender profiles. The three measures are significantly correlated with each other (r=0.7 between 1-digit and 2-digit measures and r=0.5 between 1-digit and 3-digit measures), indicating that segregation tends to be greater in certain countries, regardless of the measure used.

Gender segregation is found to be highest in Austria[8], Hungary, Slovakia and France, and lowest in Sweden, Belgium and the Netherlands. It had been hypothesised that occupational

[7] These were calculated by summing the absolute differences in the proportion of males and females in each occupational group and dividing the total by two.

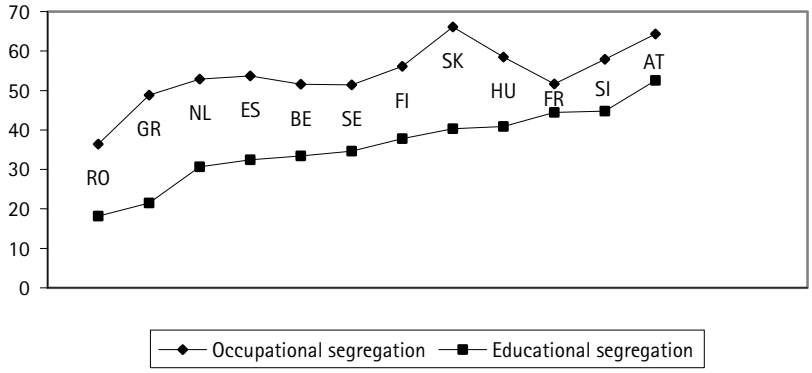
[8] The data for Austria are not fully comparable with the other countries since they relate to current job. However, analysis does reveal Austria as an outlier in segregation terms.

Table 8: Occupational segregation by gender in first significant job

	1-digit	2-digit	3-digit
Austria	45.5	56.8	64.3
Netherlands	32.3	38.6	52.9
Sweden	30.8	40.9	51.4
Finland	35.6	51.2	56.1
France	37.3	47.5	51.7
Belgium	31.6	44.3	51.6
Greece	36.1	41.2	48.8
Spain	42.1	47.5	53.7
Hungary	37.7	49.0	58.5
Slovenia	34.9	42.3	57.9
Romania	36.4	n.a.	n.a.
Slovakia	37.6	55.4	66.1

segregation would be greatest in the countries with the highest levels of educational segregation by gender with young people being 'pre-sorted' into gender-typed occupations on the basis of their educational experiences (see Borghans and Groot, 1999). Figure 8 shows the measures of segregation for both occupation and education (in the latter case, combining segregation measures at upper secondary and tertiary levels). In the case of occupation, the measure based on the 3-digit ISCO classification is used; for Romania, the 1-digit measure is used because of the lack of information on more detailed occupational groupings. It is apparent that educational and occupational segregation are interrelated at the country level (with a correlation of r=+0.7) with Austria and Slovenia showing the highest levels of segregation and Romania and Greece showing the lowest levels of segregation.

Figure 8: Measures of educational and occupational segregation by country



The location of the Netherlands is somewhat surprising given previous research on the strong levels of gender segregation within the educational system (see Borghans and Groot, 1999; Smyth, 2001). It may be that the broad groupings of educational field available in the ad hoc module obscure some of the segregation happening at a more detailed level of aggregation.

The purpose of this paper is not to examine the 'matching' between educational field and occupational group (see Wolbers, 2002) but it is useful to explore the ways in which participation in a gendered educational track influences the type of occupation entered. The gender-typing of educational field (general, male-intensive, mixed and female-intensive) is significantly related to the gender-typing of first significant job[9] in all of the countries considered. For the purposes of this and subsequent analysis, those leaving from lower secondary education are assigned to general tracks because of the considerable cross-national variation in the existence of track differentiation at this level.

Table 9 presents a multinomial logistic regression equation predicting entry to predominantly male and predominantly female occupations relative to entry to mixed jobs. Young women are significantly less likely to enter predominantly male jobs and more likely to enter predominantly female jobs, even controlling for gender and educational field. Thus not all gender segregation is attributable to educational segregation with gender continuing to have a direct effect on the 'sorting' of young men and women into gendered jobs. Having a lower secondary education increases the chances of entering a male job and reduces the chances of entering a female job; this is likely to reflect the strongly male profile of manual jobs. Having a tertiary education increases the chances of entering a mixed occupation. Females with a tertiary education have reduced chances of entering female occupations.

Leavers from a male track are much more likely to enter a male track and leavers from a female track are much more likely to enter a female track. However, there is also a considerable amount of movement from mixed tracks into gender-typed occupations. This may be due to the fact that occupational segregation is somewhat stronger than educational segregation (see Figure 8) so that there is more room for potential movement from mixed tracks into gender-typed jobs. There is no evidence that the effect of educational field differs for men and women; the exception is a greater tendency to enter male occupations among women from mixed tracks.

It was hypothesised above that in track-differentiated systems, gender segregation in labour market outcomes will tend to be mediated by the type of course taken whereas direct gender effects on occupational allocation should be stronger in general than in track-differentiated

[9] The measure of gender-typing of occupation is based on 1-digit ISCO classifications because of the possible influence of small sample sizes at the more detailed level of occupational aggregation.

Table 9: Multinomial logit model of gender-typing of first significant job (contrasted against entry to mixed occupations)

	Male	Female
Intercept	1.087***	1.024***
Female (Base: male)	-0.614***	0.922***
***Educational level*:**		
Lower secondary	0.596***	-0.355***
Tertiary (Base: upper secondary)	-2.177***	-0.547***
***Gender*Educational level*:**		
Female*Lower secondary	0.420***	0.267
Female*Tertiary	0.106	-0.663***
Educational field:		
Male-dominated	1.264***	0.276***
Mixed	1.268***	1.244***
Female-dominated (Base: General)	0.083	1.023***
***Gender*Educational field*:**		
Female*Male-dominated course	0.251	-0.107
Female*Mixed course	0.494***	0.256
Female*Female-dominated course	0.130	-0.089
-2 Log likelihood	7108.598	

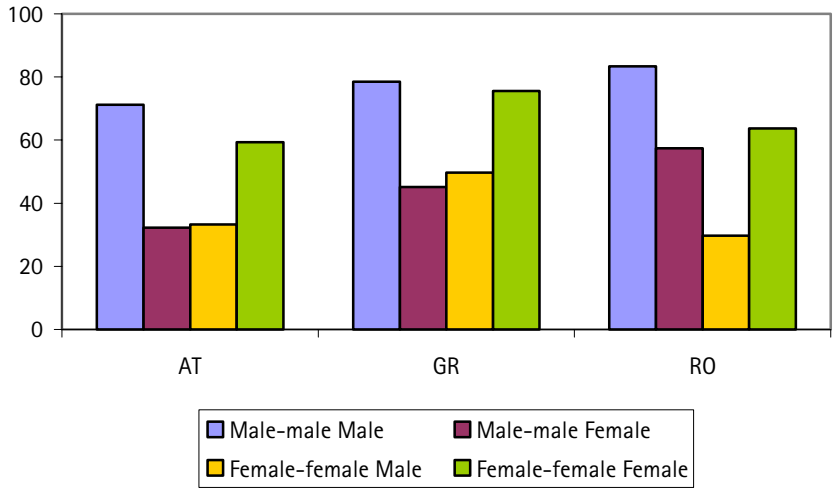
Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A4).

systems. It can be quite difficult to interpret country and country-gender interaction coefficients in multinomial logit models (see Appendix Table A4). For the purposes of comparison, therefore, the predicted probabilities of leavers from male-dominated courses entering male-dominated occupations (termed 'male-male' in Figure 9) and of leavers from female-dominated courses entering female-dominated occupations (termed 'female-female' in Figure 9) were calculated for Austria (a country with a high level of educational and occupational segregation by gender), Greece and Romania (countries with low levels of educational and occupational segregation by gender). It is apparent that in Austria there are strong gender differences in occupational destination, even among those who have taken similar educational tracks. Of those who have taken male-dominated courses, all else being equal, over seventy per cent of males but less than a third of females enter male-dominated occupations. Of those who have taken female-dominated courses in Austria, almost sixty per cent of young women enter female-dominated jobs but this is the case for only a third of young men. Thus, higher levels of occupational segregation in the Austrian youth labour

market reflect not only marked gender differences in the type of courses taken but marked differences in occupational outcomes for women and men taking 'male' (or 'female') tracks.

Gender differences in occupational outcomes are also apparent among those taking male and female tracks in the lower segregation countries of Greece and Romania. However, in some instances gender differentiation is less marked than in the Austrian situation; for example, a relatively high proportion (57%) of young women taking male courses in Romania subsequently enter male-dominated occupations. In overall terms, occupational segregation in the youth labour market tends to reflect both 'presorting' into different educational fields and 'post-sorting' into different occupational destinations among those in the same field of education. The degree to which this takes place is likely to reflect the complexity of institutional, social and economic factors operating at the country level.

Figure 9: Predicted probabilities of entering male and female-dominated occupations for selected countries (upper secondary leavers)



7 Occupational status and gender differentiation

ISEI occupational status scores were assigned to occupational groups. Figure 10 indicates varying patterns of gender differences in occupational status across countries. In all countries except the Netherlands, women have higher average status scores than men. This may be related to the greater concentration of women in non-manual jobs which tend to have higher prestige scores than manual occupations. It should be noted that higher occupational status scores do not necessarily translate into higher pay and mobility

opportunities for women (see Smyth, 2001). Given that women tend to have higher educational attainment levels than men (see above), gender differences in educational level and field may also account for variation in occupational status.

Figure 10: Occupational status of first significant job by gender and country

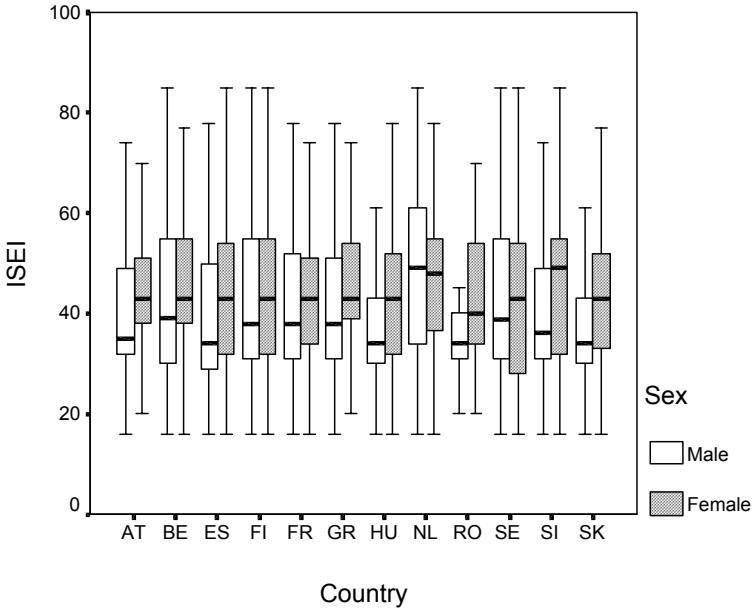


Table 10 presents a model predicting the occupational status of the first significant job. Young women are found to enter higher status occupations, controlling for their educational level (Model 2). Lower secondary leavers enter lower status occupations, and tertiary leavers enter higher status occupations, than those with upper secondary education. However, the status returns to tertiary education are significantly lower for women than for men. Educational field is strongly predictive of occupational status (see Model 3). Those with agriculture, service and engineering backgrounds enter the lowest status occupations with the highest status levels found among those with science backgrounds. However, the effect of educational field is found to vary by gender (see Figure 11). In general, women achieve higher occupational status than men who had studied the same type of course, with the exception of health/welfare courses. For men, the status returns are highest for health and science courses and lowest for engineering and agriculture courses. For women, the status returns are highest for science, education, arts and social science/business courses.

A good deal of young women's advantage in occupational status terms is due to their higher educational levels and the type of courses they study; in other words, the gap between male

and female scores is reduced when educational level and field of education are taken into account (see Figure 12). The gender gap in occupational status levels is found to vary by country with the greatest advantage to young women found in the Mediterranean and Eastern European countries.

Table 10: Linear regression model of occupational status of first job

	(1)	(2)	(3)	(4)
Intercept	39.111	34.084	35.214	34.796
Female (Base: male)	6.074***	2.461***	1.563***	2.665***
Educational level:				
Lower secondary		-5.445***	-6.301***	-6.306***
Tertiary (Base: upper secondary)		17.887***	16.332***	18.249***
***Gender*Educational level*:**				
Female*Lower secondary				-0.114
Female*Tertiary				-4.045***
Educational field:				
Education			3.192***	0.924
Arts			2.483***	0.889
Social Science			2.230***	0.834
Science			5.356***	4.501**
Engineering			-3.033***	-3.595***
Agriculture			-4.825***	-6.832***
Health			-0.081	5.532***
Services (Base: General)			-4.609***	-4.359***
*Gender*Educational field*:				
Female*Education				4.036***
Female*Arts				3.123***
Female*Social science				2.436***
Female*Science				1.638**
Female*Engineering				1.609***
Female*Agriculture				5.683***
Female*Health				-6.257***
Female*Services				-0.439
Adjusted R Square	0.029	0.361	0.388	0.394

Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A5).

Figure 11: Predicted returns to various fields of education (controlling for level)

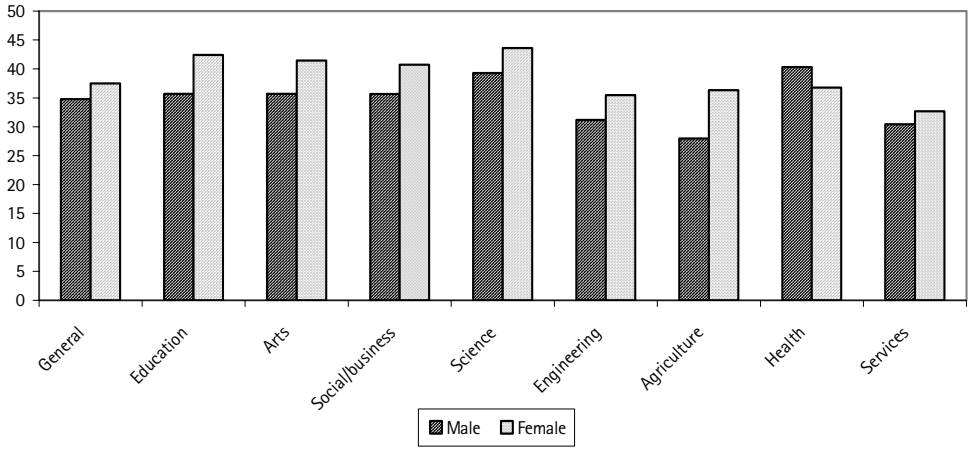
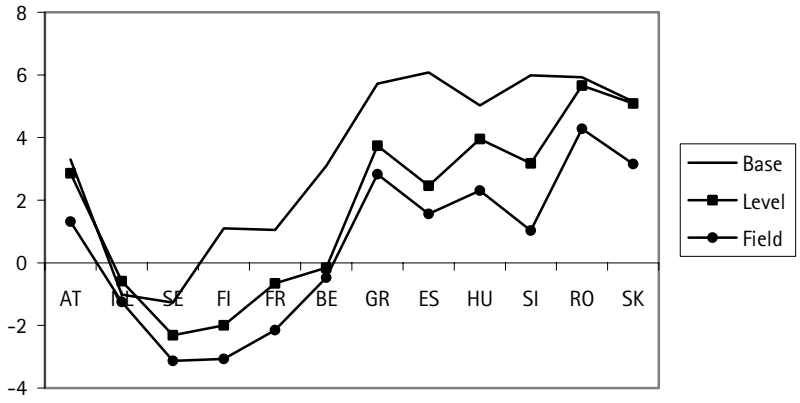


Figure 12: Country variation in gender differences in occupational status

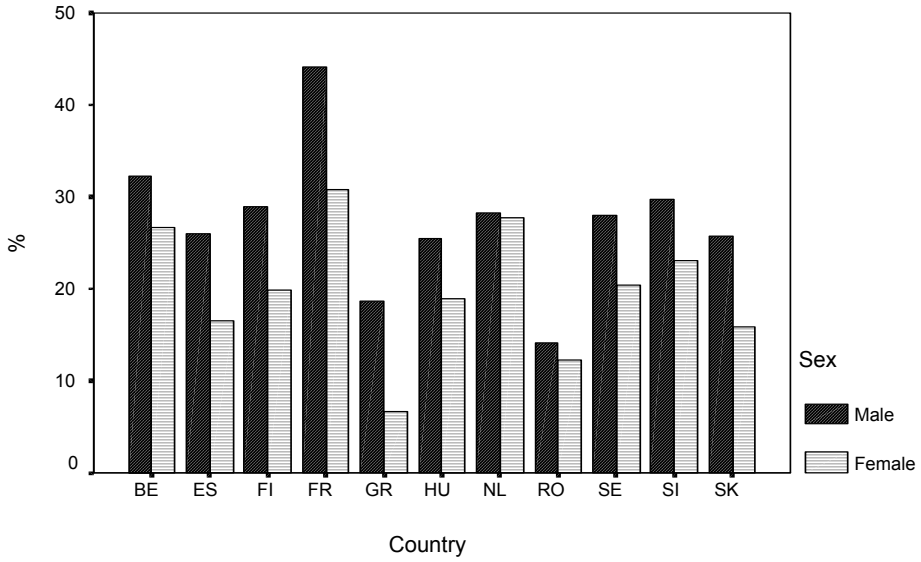


8 Occupational upgrading

Analyses were carried out to determine whether respondents had experienced an upgrading in occupational status levels between their first significant and current jobs. Young people who were in a higher status occupation in their current job than in their first significant job were considered as having experienced an occupational upgrading, regardless of the 'size' of this shift. Figure 13 refers only to those who changed jobs between their first significant job

and their job at the time of the interview. In all of the countries examined, a considerable proportion of young people who had changed jobs had experienced occupational upgrading, although there is some variation by country in the overall levels. With the exception of the Netherlands, women are less likely to have experienced occupational upgrading than men; this difference is statistically significant in Spain, Finland, France, Greece, Hungary and Slovakia.

Figure 13: Occupational upgrading by gender and country



The factors influencing occupational upgrading are explored in Table 11. Even controlling for educational level and field, young women are less likely to achieve occupational upgrading than their male counterparts. Tertiary education leavers have a greater chance of upgrading while lower secondary leavers have the lowest chances of being upgraded (see Table 11). However, tertiary education does not translate into occupational upgrading to the same extent for women as for men. The chances of upgrading are lowest for those who had taken education, health, agriculture and services courses.

Experience of occupational upgrading is found to be influenced by young people's history within the labour market (see Model 4, Table 11). Those who entered a first job with higher status levels are less likely to be upgraded subsequently, perhaps because of a ceiling effect in higher status occupations. In addition, upgrading one's educational level increases the chances of occupational upgrading. All else being equal, women remain less likely to achieve upgrading than men.

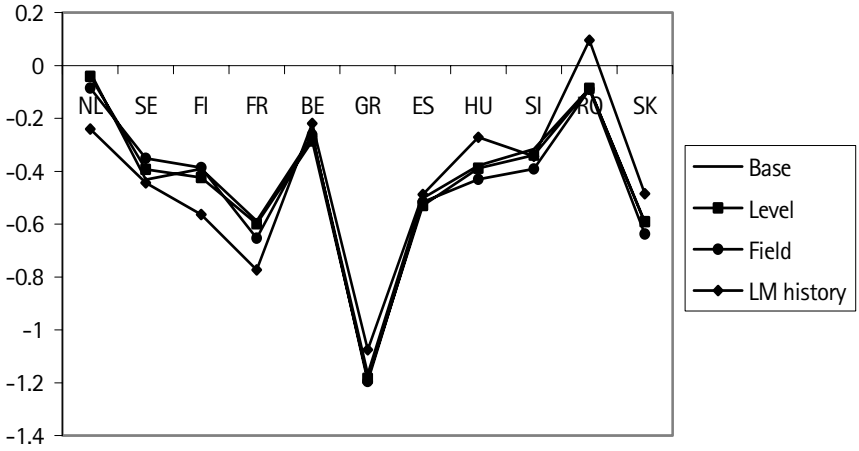
Table 11: Logistic regression model predicting occupational upgrading

	(1)	(2)	(3)	(4)	(5)
Intercept	-1.322***	-1.400***	-1.197***	0.806***	1.094***
Female (Base: male)	-0.502***	-0.530***	-0.516***	-0.488***	-1.027***
Time since leaving education (months)	0.003***	0.003***	0.004***	0.004***	0.004***
Educational level:					
Lower secondary		-0.023	-0.264**	-0.691***	-0.692***
Tertiary (Base: upper sec.)		0.188***	0.231***	1.090***	1.339***
*Gender*Educational level*:					
Female*Lower sec.					-0.099
Female*Tertiary					-0.461***
Educational field:					
Education			-1.037***	-0.641***	-1.155**
Arts			-0.091	0.065	-0.435
Social Science			-0.158	0.067	-0.153
Science			-0.056	0.397**	0.312
Engineering			-0.339***	-0.489***	-0.584***
Agriculture			-0.317*	-0.624***	-0.753***
Health			-0.651***	-0.768***	-0.614
Services (Base: General)			-0.341***	-0.600***	-0.773***
Gender*Educational field:					
Female*Education					0.747
Female*Arts					0.830***
Female*Social science					0.355*
Female*Science					0.213
Female*Engineering					0.114
Female*Agriculture					0.188
Female*Health					-0.081
Female*Services					0.312
Labour market history:					
Status of first job				-0.064***	-0.074***
*Female*Status of first job*				1.102***	0.017***
Upgraded educational level (Base: did not upgrade)					1.355***
*Female*Upgraded educational level*					-0.423
-2 log likelihood	16286.646	16256.461	15857.114	14746.93	14700.034

Note: *** p<.001, ** p<.01; country and country*gender interactions are controlled for (see Appendix Table A6).

There is some cross-national variation in gender differences in occupational upgrading (see Figure 14). The biggest gender differences in occupational upgrading are apparent in the Mediterranean countries, France and Slovakia. In contrast, there are only minimal gender differences in the Netherlands, Romania and, to a lesser extent, Belgium.

Figure 14: Country variation in gender differences in occupational upgrading



9 Summary and conclusions

This paper has considered gender differentiation in early labour market outcomes across a range of European countries. As Table 12 illustrates, there are certain commonalities in gender differences across European countries. Women tend to have lower labour force participation rates than their male counterparts and, where they have remained in the labour market, they are less likely to have experienced occupational upgrading. However, there is also cross-national variation in the nature of gender differentiation; this variation is particularly evident in relation to unemployment rates with higher rates among women than men in many central European and Mediterranean countries and lower rates among women than men in many Eastern European and Scandinavian countries.

In spite of the fact that the educational attainment of women has now surpassed that of men in many countries, differences persist in the type of educational courses taken by young women and men. Countries differ in the extent of educational segregation by gender but certain regularities are evident, with health/welfare, education and arts courses dominated by women and engineering courses dominated by men. It had been hypothesised that, at the country level, educational segregation would be positively associated with

occupational segregation by gender. It is, indeed, apparent that countries with higher rates of gender segregation within the educational system tend to have higher rates of gender segregation within the labour market. Thus, occupational segregation reflects, at least in part, the way in which the different kinds of courses taken by young women and men channel them into gender-typed occupations. However, it is also apparent that marked gender differences persist among those who have taken similar courses across all countries, both those characterised by differentiated, gender-tracked systems and those characterised by more general systems. Thus, labour market segregation also reflects 'post-sorting', whereby women and men with the same kinds of qualifications enter quite different occupational arenas.

Table 12: Summary of country variation in gender differences in early labour market outcomes (controlling for educational level)

	Educational segregation (outlier)	Occupational segregation (outlier)	Labour market integration	Labour force participation	Unemploy-ment	Occup. status	Occup. upgrading
Austria	+	+	-	-	+	+	n.a.
Netherlands			0	(-)	+	(-)	(-)
Sweden			(+)	(-)	-	-	-
Finland			(-)	-	(-)	-	-
France	+		-	-	+	-	-
Belgium			-	-	+	(-)	-
Greece	-	-	-	-	+	+	-
Spain			-	-	+	+	-
Hungary			-	-	-	+	-
Slovenia	+		0	(+)	0	+	-
Romania	-	-	0	-	-	+	(-)
Slovakia		+	(+)	-	-	+	-

+ higher among women; (+) slightly higher among women; 0 no gender difference.

As Table 12 illustrates, there is no necessary relationship among the labour market outcomes considered. For instance, women's unemployment is higher than men's in both Austria, a more segregated youth labour market, and Greece, a less segregated youth labour market. Thus, there is no evidence that greater segregation within the youth labour market either hinders or facilitates the integration of young women into stable employment.

To date, much research on gender differentiation and segregation within the labour market has focused on adult workers. This paper indicates the need to investigate the way in which gender differentiation emerges early in the labour market career and the impact of early employment experiences on subsequent career trajectories.

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11 Appendix Tables

Table A1: Country effects on obtaining a first significant job

	Base model	Educational level	Educational field	Family status	Education* gender	Family* gender
Country:						
Austria	0.201***	0.087	0.011	0.182**	0.211***	0.201**
Netherlands	0.769***	0.637***	0.586***	0.684***	0.733***	0.765***
Sweden	1.134***	0.828***	0.770***	0.841***	0.939***	1.013***
Finland	-0.014	-0.240***	-0.253***	-0.134	-0.102	-0.027
France	0.611***	0.250***	0.173***	0.241***	0.286***	0.270***
Belgium	1.081***	0.917***	0.947***	1.023***	1.059***	1.060***
Greece	0.274***	0.110	0.187***	0.137**	0.182***	0.198***
Hungary	0.618***	0.469***	0.379***	0.485***	0.486***	0.452***
Slovenia	0.628***	0.425***	0.268**	0.323***	0.341***	0.343***
Romania	-1.165***	-1.238***	-1.286***	-1.219***	-1.199***	-1.255***
Slovakia	-0.420***	-0.701***	-0.805***	-0.389	-0.300	-0.299
*Country*gender interactions:*						
AT*female	0.252***	0.522***	0.531***	0.529***	0.494***	0.540***
NL*female	0.481***	0.739***	0.732***	0.650***	0.594***	0.546***
SE*female	0.471***	0.763***	0.775***	0.762***	0.630***	0.508***
FI*female	0.502***	0.666***	0.661***	0.641***	0.602***	0.475***
FR*female	0.182***	0.370***	0.390***	0.416***	0.341***	0.405***
BE*female	0.003	0.073	0.024	0.043	-0.003	0.029
GR*female	-0.247***	-0.112	-0.085	-0.072	-0.139	-0.157
HU*female	0.288***	0.522***	0.552***	0.587***	0.614***	0.706***
SI*female	0.555***	0.676***	0.749***	0.802***	0.786***	0.829***
RO*female	0.427***	0.716***	0.720***	0.759***	0.772***	0.890***
SK*female	0.526***	0.814***	0.830***	-0.160	-0.282	-0.295

Note: corresponds to Table 4 above.

Table A2: Country effects on labour force participation

	Base model	Educational level	Educational field	Family status	Family*gender
Country:					
Austria	-0.713***	-0.930***	-1.020***	-0.511***	-0.314**
Netherlands	-0.175	-0.344	-0.386	-0.005	0.298
Sweden	-1.088***	-1.480***	-1.514***	-1.365***	-0.884***
Finland	-0.861***	-1.140***	-1.141***	-0.801***	-0.200
France	-0.050	-0.453***	-0.532***	-0.368***	-0.411***
Belgium	0.219	-0.043	0.059	0.270	0.413
Greece	-0.372***	-0.599***	-0.502***	-0.713***	-0.641***
Hungary	-1.140***	-1.389***	-1.445***	-1.249***	-1.371***
Slovenia	-0.946***	-1.260***	-1.392***	-1.308***	-1.347***
Romania	-0.906***	-0.976***	-0.989***	-0.811***	-1.023***
Slovakia	0.079	-0.280	-0.367**	-4.116***	-3.458***
*Country*gender interactions:*					
AT*female	-0.001	0.224	0.236	0.148	-0.109
NL*female	0.412	0.633**	0.643**	0.437	0.018
SE*female	0.501***	0.684***	0.682***	0.630***	-0.133
FI*female	-0.007	0.079	0.091	-0.011	-0.938***
FR*female	-0.341***	-0.224	-0.249**	-0.197	-0.077
BE*female	-0.396	-0.362	-0.463	-0.453	-0.597**
GR*female	-0.305**	-0.216	-0.199	-0.145	-0.247
HU*female	-0.433***	-0.277**	-0.291***	-0.242**	-0.066
SI*female	0.940***	1.050***	1.034***	1.249***	1.350***
RO*female	-0.155	0.052	0.032	0.093	0.433***
SK*female	-1.184***	-0.968***	-0.973***	0.947	-0.220

Note: corresponds to Table 5 above.

Table A3: Country effects on current unemployment

	Base model	Educational level	Educational field	Education*gender
Country:				
Austria	-1.769***	-1.795***	-1.740***	-1.723***
Netherlands	-2.276***	-2.259***	-2.251***	-2.265***
Sweden	-0.958***	-0.814***	-0.801***	-0.839***
Finland	-0.088	0.011	0.036	0.056
France	-0.192***	0.037	0.073	0.073
Belgium	-0.591***	-0.485***	-0.472***	-0.478***
Greece	0.322***	0.386***	0.371***	0.366***
Hungary	-0.250***	-0.201**	-0.178**	-0.137
Slovenia	-0.473***	-0.411***	-0.361**	-0.333**
Romania	1.016***	0.062	0.061	0.060
Slovakia	-0.473***	1.095***	1.123***	1.188***
Country gender interactions:*				
AT*female	-0.251	-0.426	-0.454	-0.483
NL*female	0.256	0.067	0.076	0.087
SE*female	-0.777***	-0.976***	-0.975***	-0.940***
FI*female	-0.699***	-0.803***	-0.815***	-0.867***
FR*female	-0.304***	-0.429***	-0.483***	-0.476***
BE*female	-0.331***	-0.360	-0.352	-0.357
GR*female	-0.003	-0.092	-0.106	-0.114
HU*female	-0.889***	-1.040***	-1.053***	-1.159***
SI*female	-0.600***	-0.655***	-0.730***	-0.807***
RO*female	-0.875***	-1.062***	-1.068***	-1.121***
SK*female	-0.771***	-0.974***	-0.993***	-1.164***

Note: corresponds to Table 6 above.

Table A4 Country effects on gender-typing of first significant job

	Male	Female
Country:		
Austria	-1.034***	-1.977***
Netherlands	-1.509***	-2.522***
Sweden	-1.511***	-2.195***
Finland	-0.685***	-1.059***
France	-1.125***	-2.419***
Belgium	-0.613***	-0.779***
Greece	-0.087	-0.683***
Spain	5.850***	5.123***
Slovenia	-0.599***	-0.882***
Romania	-0.185	-1.608***
Slovakia	0.439***	-0.219
Country gender interactions:*		
AT*female	-1.087***	-0.314
NL*female	-1.370***	-0.121
SE*female	-0.820***	-0.024
FI*female	-0.846***	-0.226
FR*female	-0.677***	0.338**
BE*female	-0.353	-0.008
GR*female	-0.933***	-0.528***
ES*female	-0.613	-0.147
SI*female	-0.235	-0.418
RO*female	-0.552***	-0.040
SK*female	-0.440	-0.478**

Note: corresponds to Table 9 above.

Table A5 Country effects on occupational status

	Base model	Educational level	Educational field	Education* gender
Country:				
Austria	2.569***	6.085***	6.448***	7.172***
Netherlands	8.811***	7.810***	7.715***	7.793***
Sweden	5.274***	4.831***	4.327***	4.588***
Finland	4.000***	4.177***	5.057***	5.217***
France	3.601***	0.645**	0.787***	1.050***
Belgium	4.595***	3.655***	3.386***	3.429***
Greece	2.516***	3.897***	3.465***	3.615***
Hungary	0.039	3.274***	4.322***	4.938***
Slovenia	2.544***	4.703***	5.991***	6.572***
Romania	-1.101***	1.753***	2.110***	2.605***
Slovakia	-0.950	2.064***	3.670***	4.461***
Country gender interactions:*				
AT*female	-2.774***	0.399	-0.248	-1.925***
NL*female	-7.086***	-3.045***	-2.811***	-3.317***
SE*female	-7.346***	-4.775***	-4.692***	-5.409***
FI*female	-4.973***	-4.453***	-4.634***	-4.900***
FR*female	-5.025***	-3.123***	-3.711***	-4.275***
BE*female	-2.979***	-2.617***	-2.037***	-2.132***
GR*female	-0.357	1.278**	1.267**	0.581
HU*female	-1.049	1.492**	0.744	-0.833
SI*female	-0.089	0.714	-0.538	-1.950**
RO*female	-0.148	3.203***	2.715***	1.152
SK*female	-0.925	2.625***	1.590**	-0.467

Note: corresponds to Table 10 above.

Table A6 Country effects on occupational upgrading

	Base model	Educational level	Educational field	LM history	LM history* gender
Country:					
Netherlands	0.289	0.308	0.398	0.934**	1.102**
Sweden	0.269	0.242	0.291	0.434	0.513**
Finland	0.199	0.217	0.244	0.551***	0.623***
France	0.869***	0.852***	0.884***	1.007***	1.118***
Belgium	0.343**	0.329**	0.329**	0.562***	0.623***
Greece	-0.369	-0.350	-0.356	-0.046	0.023
Hungary	-0.008	0.033	0.110	0.362***	0.460***
Slovenia	0.210	0.239	0.331	0.740***	0.884***
Romania	-0.809***	-0.778***	-0.756***	-0.589**	-0.510**
Slovakia	0.005	0.041	0.138	0.358**	0.464***
Country gender interactions:*					
NL*female					
SE*female	0.477	0.489	0.431	0.247	-0.010
FI*female	0.070	0.137	0.165	0.045	-0.110
FR*female	0.111	0.106	0.130	-0.075	-0.188
BE*female	-0.086	-0.069	-0.137	-0.285	-0.479***
GR*female	0.235	0.244	0.254	0.269	0.142
HU*female	-0.665	-0.654	-0.680	-0.588	-0.769
SI*female	0.124	0.141	0.085	0.216	0.015
RO*female	0.186	0.190	0.124	0.145	-0.130
SK*female	0.416	0.444	0.426	0.584	0.384
	-0.093	-0.061	-0.122	0.003	-0.216

Note: corresponds to Table 11 above.

Job Mismatches and their Labour Market Effects among School Leavers in Europe

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Abstract

In this chapter, we investigate the determinants of job mismatches with respect to field of education among school leavers in Europe. In addition, we examine the effects ofjob mismatches on the labour market position of school leavers, with special attention paid to cross-country variation. The results of the empirical analysis show that several individual, job, and structural characteristics affect the likelihood of having a job mismatch. Furthermore, the incidence of job mismatches differs among European countries. In countries where the proportion of upper secondary education students in school-based vocational education is high, the incidence of job mismatches among school leavers is higher than in countries where this proportion is low. Regarding labour market effects of job mismatches, the most important finding is that school leavers with non-matching jobs achieve lower occupational status than those with matching jobs. This negative effect of job mismatches is smaller in countries where the proportion of school-based or apprenticeship-type vocational education is higher. Moreover, the analysis reveals that school leavers with job mismatches use adjustment strategies to improve fit. One strategy involves job search activities. School leavers with non-matching jobs are more frequently looking for other jobs than school leavers with matching jobs. In countries where the proportion of school-based vocational education is high, the effect of having a job mismatch on the likelihood of looking for another job is smaller than in countries where this proportion is low. A second adjustment strategy concerns training participation. On average, a job mismatch has a negative effect on the probability of participating in continuous vocational training. However, in countries where the proportion of school-based or apprenticeship-type vocational education is low, the impact of having a job mismatch on training participation is positive.

Table of Contents

1 Introduction

In modern societies, education is probably the most important factor in the allocation and selection process of the labour market. Labour market theories differ, however, concerning the mechanisms by which educated persons are allocated to jobs. According to human capital theory (Becker, 1964), the skills acquired in education represent human capital. Investments in human capital are useful, as long as they lead to higher productivity in the labour market. Employers indicate that they value labour productivity by offering the highest wages to those individuals who have obtained the most human capital. Job competition theory (Thurow, 1975), on the other hand, suggests that wages are determined primarily by job characteristics and not by individual characteristics (i.e., the productivity of workers). Employers seek to employ the best available candidate for their vacancy, at the lowest training costs. They use educational qualifications as an indicator of trainability (Spence, 1974). For that purpose, job seekers are ranked in an imaginary labour queue according to their expected training costs, and employers match this queue of applicants to a queue of vacant jobs that are classified by their level of required training (Thurow, 1975; Sørensen and Kalleberg, 1981). The best positions go to the individuals with the lowest training costs (i.e., the highest qualifications), and education is regarded as a positional good (Hirsch, 1977; Ultee, 1980).

A combination of these two theories is job matching theory (Sattinger, 1993), which states that the quality of a job match, i.e., the degree of fit between required and acquired skills, determines the productivity level and earnings in a job. If an employee works in a non-matching job, his acquired skills are underutilized. This imposes a limitation on his labour productivity, resulting in lower wages. The allocation of workers is optimal if every worker is matched to a job in which he performs better than all other workers. The incidence of job mismatches, then, is explained by differences in the number of vacant jobs at a given level and the number of available workers with adequate educational qualifications.

Most of the research addressing the topic of job mismatches refers to overeducation. (see, among others, Borghans and De Grip, 2000; Clogg and Shockey, 1984; Freeman, 1976; Groot and Maasen van den Brink, 2000; Halaby, 1994; Hartog and Oosterbeek, 1988; Smith, 1986; Wolbers et al., 2001). Workers are overeducated if the level of education they have acquired exceeds the level of education required to perform their job adequately. Far less attention is paid to job mismatches based on the field of education obtained (exceptions are Witte and Kalleberg, 1995; Solga and Konietzka, 1999; Van de Werfhorst, 2001). Moreover, the minor attention given to job mismatches with regard to field of education is limited to empirical studies that consider only a single country. This paper tries to fill this gap by analysing job mismatches with regard to field of education from a cross-country perspective. We investigate to what extent school leavers in Europe are working in jobs that do not match their field of education. First, the determinants of job mismatches are studied. Next,

the effects of job mismatches on the labour market position of school leavers are examined. The analysis covers thirteen European countries for which reliable data are available.

The paper is structured as follows. In the second section, we derive hypotheses on the determinants of job mismatches among school leavers in Europe. In addition, we formulate hypotheses on the consequences of job mismatches for the labour market position of school leavers, paying special attention to cross-country differences. The third section describes the data and variables that are used in analysing job mismatches. The fourth section presents the determinants of job mismatches among school leavers in Europe. The fifth section looks at the consequences of job mismatches for three labour market outcomes of school leavers: occupational status attainment, job search activities, and participation in continuous vocational training. The sixth section discusses the main conclusions of the paper.

2 Theoretical background

2.1 Determinants of job mismatches

The transition from school to work is often regarded as a 'rite of passage' through which young people are introduced to the world of labour. This transition process takes place in stages and it is characterized as a turbulent and uncertain period (OECD, 1998; Kerckhoff, 2000). First, school leavers have to compete with those who have already gained a position on the labour market for available jobs. Their lack of work experience often forces them to face unemployment. Secondly, a relatively large number of school leavers end up in jobs that do not match their educational qualifications. These job mismatches are the result of incomplete information on the abilities of school leavers and the characteristics of jobs offered by employers. Logan (1996) refers to this as a two-sided matching game. By changing jobs or (re-)training, school leavers and employers attempt to achieve a better job match. Job mismatches can then be considered temporary positions that allow for a transition to a better position (Sicherman, 1991).

In examining the determinants of job mismatches, it is obvious that education plays a key role. Three aspects of educational qualifications are important here. First, the amount of specific human capital influences job placement. It is assumed that school leavers from vocational education have acquired more specific human capital needed to perform adequately at a particular job than those who have only completed general education. Therefore, we hypothesize that the former group of school leavers is less likely to be employed in a non-matching job. The provision of vocational education (school-based versus workplace-based vocational education, or a combination of both in the form of apprenticeship training) may also decrease the likelihood of preventing a job mismatch. It is assumed that workplace-based and, to a somewhat lesser extent, apprenticeship-type

vocational education decreases the selection and allocation costs for employers. It offers them a opportunity to teach students the skills specifically needed by the firm and allows them to screen students during the training. For school leavers, workplace-based and apprenticeship-type vocational education offers an advantage in the matching process as well. Having already held a (temporary) position in a firm, they can thus more easily gain access to a position that fits their training than leavers from school-based vocational education.

Second, the extent to which school leavers from vocational education are able to find jobs that match their training experiences differs among vocational programmes. Here the relative degree to which the curriculum of the educational programme provides the required knowledge and skills is influential. It is expected that the more a course of study specifically prepares students for a few particular jobs, the closer the fit between education and employment. In vocational programmes that are mainly occupation-specific, irrespective of how these programmes are provided by the education system, school leavers gain specific skills which prepare them for a few, particular jobs. Good examples of fields of education that are closely linked to professions are education and health/welfare. Both fields of education prepare students to enter a small number of possible professions that are only accessible with the right certificate, such as teacher or medical doctor.

Third, the level of education attained by school leavers determines the likelihood of being employed in a non-matching job. In a situation of overeducation, the oversupply of highly educated school leavers may lead to a process of 'bumping down' as these better-educated school leavers start competing with less-educated school leavers (Borghans and De Grip, 2000). As a result, better-educated school leavers find work in a related field, but at a lower job level. For less-educated school leavers, however, this strategy is less useful, since their opportunities to switch to an even lower level job are restricted because fewer alternatives exist for them. Therefore, we expect the level of education attained by school leavers to be negatively associated with the likelihood of being in a non-matching job.

In addition to educational qualifications, other individual characteristics affect the likelihood of having a job mismatch. Gender differences on the labour market are found along several dimensions. In general, women have less favourable prospects in the labour market than men (Blossfeld and Hakim, 1997). Their unemployment risk is larger, their opportunities for career mobility are fewer, their participation in training programmes is lower, their work life is more often interrupted by family obligations, and so forth. It is likely that these gender differences also play a role in job mismatches. Since women's employment opportunities are fewer, they may be more inclined to accept a job outside their own occupational domain. Also, since their mobility rates are lower, the probability being able to move from a non-matching job to a better fitting one is smaller. We suppose, therefore, that women are more often employed in jobs that do not match their field of education than men.

Furthermore, we hypothesize that older workers are more likely to be in jobs that do not match the field of education attended than younger workers. Witte and Kalleberg (1995) mention two arguments to support this hypothesis. First, the skills that had been obtained by older workers in initial education may become obsolete, mainly due to changing technology (Miles and Ducatel, 1994). Second, the relative value of vocational qualifications earned during initial education compared to the total amount of human capital acquired over time decreases over the life-course, since other forms of human capital (work experience, on-the-job-training) accumulate with age.

When examining the role of job tenure, we expect to find a negative relationship with the likelihood of having a job mismatch. The longer a school leaver is employed in the same job, the higher the probability that deficiencies in initial education have been compensated for through work experience and/or additional training. However, the causal order may be the reverse. If a school leaver has a job that does not match with the field of education, then there is a strong incentive to change to another job that is a better match.

The type of the employment contract also has an effect on the likelihood of having a job mismatch. In general, the labour market opportunities for workers in temporary and/or part-time jobs are worse than for those in permanent and/or full-time positions. An important reason for the less favourable labour market position of these employees is that it is less profitable for employers to invest in such workers, because of a shorter investment recovery period (Psacharopoulos, 1987). In the case of part-time employment, the return on the investment must be recovered in a fewer number of hours. In the case of temporary employment, employers are more reluctant to invest because of the greater risk of employees leaving, resulting in a shorter than expected investment recovery period. It is assumed that these employer investment arguments also hold with respect to job mismatches – as is the case with other labour market opportunities. In addition to this, temporary and/or part-time employment often leads to a loss of productive skills and a lack of relevant work experience. Hence, it is possible that job mismatches among temporary and/or part-time workers are used as a compensation for this loss of productivity and lack of experience (Groot and Maassen van den Brink, 1996). Based on these arguments, we presume that school leavers with temporary and/or part-time contracts experience more job mismatches than school leavers with permanent and/or full-time contracts.

In addition to individual and job characteristics, various labour market structures also impact the likelihood of a job mismatch. Fluctuations in the business cycle are expected to have an impact on the likelihood of being employed in a non-matching job. It is assumed that school leavers who enter the labour market during an economic recession are less likely to find jobs that match the field of education attended. High unemployment forces school leavers to adjust their goals and, therefore, they are more willing to switch to jobs outside

their field of education, instead of continuing to search for jobs which are better suited to their acquired skills.

Another important type of labour market structure is the organization in which a school leaver is working. We assume that the likelihood of having a job mismatch decreases with firm size. The main argument for this hypothesis is that larger firms can provide more opportunities for individuals to find jobs that match their fields of education. Moreover, larger firms invest considerably more in the training of their employees than smaller ones (OECD, 1991) so that initial skill deficiencies can easily be compensated for.

We also expect that the incidence of job mismatches differs between the private and public sector. The argument for this hypothesis is rather simple. Since it is assumed that school leavers from an educational programme in education and health/welfare are less likely to experience job mismatches, and because the public sector encompasses all educational and health care organizations, our expectation is that the incidence of job mismatches regarding field of education is lower in the public sector than in the private sector. With respect to overeducation, similar empirical evidence is found in Van der Meer and Glebbeek (2001).

Last but not least, job mismatch differences are expected among countries. Cross-national variation ininstitutional arrangements in education and training systems affect the integration process of young people into the labour market (Gangl, 2003; van der Velden and Wolbers, 2003). Countries differ in the extent to which there is an institutional link between the education and training system on the one hand and the employment system on the other (Allmendinger, 1989; Hannan et al., 1997; Kerckhoff, 1995; Müller and Shavit 1998). The basic difference among countires is the extent to which education systems differentiate between general and vocational education. Some countries offer mainly general education. In such countries, education is weakly related to the workplace and vocational training is primarily obtained onthejob. In other countries, occupation-specific skills are taught in the education and training system. Here, the link between the education and employment system is much stronger. The institutional structure of vocational education, however, may differ among these countries. In some countries, the teaching of vocational skills is shared between vocational schools and the workplace, such as with the apprenticeship-type vocational education in Germany ('dual system'). In other countries, the provision of vocational skills is mainly school-based. It is supposed that in countries with a strong orientation towards vocational education, the association between educational qualifications and labour market outcomes is stronger and, subsequently, the incidence of job mismatches is lower. This leads to the hypothesis that the more vocational oriented the education system is in a country, the less likely it is that school leavers will be employed in non-matching jobs.

2.2 Labour market effects of job mismatches

In the exisiting literature, job mismatches are reported to have serious effects on a number of labour market outcomes. Most of the economic research has focused on the effect of overeducation on wages (see Hartog, 2000). The empirical results suggest that individuals working in jobs for which a lower level of education is required than actually obtained (i.e., overeducated persons) earn less than individuals with adequate employment. When examining job mismatches based on field of education, there are wage effects as well. Individuals working in jobs related to their field of education earn higher wages than those working in unrelated jobs (van de Werfhorst, 2001). Both findings are in line with the previously discussed job matching theory (Sattinger, 1993). However, in most social stratification research labour market outcomes are assessed by measuring occupational rewards in terms of social status or prestige instead of earnings. The division of labour is central to social inequality, and so occupation is the main dimension of social stratification. In this paper we adopt this sociological approach by looking at occupational status attainment.[1] We hypothesize that having a job mismatch coincides with lower occupational returns from the labour market.

Other labour market effects of job mismatches deal with adjustment strategies. In fact, two adjustment strategies are possible for school leavers who have a job mismatch. The first strategy is to look for another job with a better fit. Job search theory indicates that school leavers will continue to change jobs until an optimal match has been achieved (Jovanovic, 1979; Tuma, 1985). For that reason, it is expected that school leavers with a non-matching job are more often looking for another job than those with a matching one. The reasons are probably diverse, but it is assumed that job dissatisfaction is one of the main reasons for the job search behaviour of school leavers who have a job mismatch (Allen and van der Velden, 2001). Job mismatches are an important cause of job dissatisfaction (Tsang and Levin, 1985; Burris, 1983), which provide an incentive for school leavers to change jobs, hopefully leading to position that better matches their knowledge and skills.

A second strategy to deal with job mismatches is to invest in additional training to compensate for skill deficiencies in initial education. It is assumed that if the field of education obtained by school leavers corresponds to the field required for a position, the need for further training is reduced (Barron et al., 1989; van Smoorenburg and van der Velden, 2000). Hence, we formulate the hypothesis that school leavers who work outside their field of education are more likely to participate in additional training than school leavers who have a job in their own field.

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[1] Also, from a more pragmatic point of view, the emphasis here is on occupational status attainment. Information on income is not available for most countries in the data set used in this paper, and therefore, occupational status is used as a proxy for wages to estimate the effect of job mismatches.

In examining cross-country variation in the labour market effects of job mismatches, two contrasting hypotheses can be formulated. On one hand, it is expected that in countries characterized by a weak association between education and work, the consequences of having a job mismatch on the labour market position of school leavers are fewer than in countries where education is strongly related to the labour market. With respect to occupational returns, it is thus expected that for school leavers with a job mismatch in a country where the education system is mainly vocationally oriented, the loss in occupational status is larger than for corresponding school leavers in a country that mainly provides general education. The reason why school leavers with a job mismatch are less likely to be 'penalized' in countries where vocational education is less developed, is that in these countries educational qualifications obtained in initial education are used primarily as a screening device to determine the trainability of school leavers (Arrow, 1973; Spence, 1974). By means of on-the-job-training occupation-specific skills are acquired that make promotion to a better fitting job possible. For that reason, we expect that in countries where the education system is general rather than vocational, the likelihood of participation in continuous vocational training and job search activities among school leavers with a job mismatch is higher.

On the other hand, it may be the case that in countries with a tight education-employment relationship, the labour market effects of job mismatches are smaller than in countries where education is loosely linked to the labour market. The rationale behind this hypothesis lies in the safety net function of vocational education (Shavit and Müller, 2000a, 2000b). Vocational education appears to be more effective in countries where it is well-focused, specific rather than general, and relevant to the skills needed in the labour market. Therefore, it is assumed that the loss in occupational status among school leavers with a job mismatch is smaller in these countries and adjustment strategies to improve fit are less commonly used.

3 Research design

3.1 Data

The analysis covers the thirteen European countries (Austria, Belgium, Denmark, Spain, Finland, France, Greece, Hungary, Italy, Luxembourg, the Netherlands, Sweden, and Slovenia) for which reliable data are available.[2] School leavers are defined as those

[2] Data from Ireland, Lithuania, Latvia, Portugal, Romania, Slovakia, and the United Kingdom are excluded, due to small sample sizes and/or serious problems with measurement or comparability of one or more crucial variables of interest.

individuals, 15-35 years old, who left initial education within the past five (Finland, Luxembourg, the Netherlands, and Sweden) or ten (all other countries) years. Since this definition implies that people who are in education at the time of the survey, but who have already left education (at least once) in the past five or ten years (for more than one year), belong to the selection of school leavers, a modified ILO definition (ILO, 1990) is applied to define the employed labour force. All people who are employed at the time of the survey, but who are in initial education at the same time, are excluded from the active labour force. Furthermore, the sample is restricted to persons who attended a vocational programme before leaving initial education for the first time. Since lower secondary education is considered general in nature, it does not make sense to study whether those who left initial education with a diploma at the level of ISCED1-2 have a (non) matching job and, therefore, all school leavers from this level of education are excluded from the analysis. For the same reason, school leavers from upper secondary education and graduates from tertiary education with a general programme are not analysed. At the ISCED3-4 level, this constitutes 16 per cent of the school leavers (in particular those from upper general secondary education which prepares for tertiary education); at the ISCED5-6 level it constitutes only 1 per cent of the graduates. We also exclude self-employed persons and family workers (i.e., we analyse only persons in paid employment). Finally, members of the armed forces are not analysed to ensure that military personnel are not confused with school leavers who are in military service. With these selections and listwise deletion of respondents for whom information is missing on any of the variables used, an analytic sample of 36,268 school leavers remains.

3.2 Measurement of variables

To determine the fit between the fields of education attended by school leavers in initial education and the jobs found on the labour market, an objective measure is used. A job mismatch is defined as a discrepancy between the current occupation a school leaver is working in and the field of education attended. Individuals working outside their field of education are treated as school leavers with a non-matching job. In Table A1 of the Appendix, an overview is given of the occupations that match a particular field of education. The basic criterion used when assigning occupational codes to a field of education is the assumed congruence of skills acquired through the field of education and those needed on the job. All other combinations between field of education and occupation are considered as job mismatches.

To investigate the consequences of job mismatches for the labour market position of school leavers, we analyse three labour market outcomes. First, the occupational status of the current job is used to estimate the effect of job mismatches. The occupational status of a job is determined by the International Socio-Economic Index (ISEI), which provides an

internationally comparable measure of occupational status (Ganzeboom et al., 1992; Ganzeboom and Treiman, 1996). Status scores were assigned to occupational titles (based on 3-digit codes from the ISCO-88 classification) according to a scale that ranges from 16 for occupations with the lowest status to 90 for occupations with the highest status. Second, we study the effect of job mismatches on job search activities. For this purpose, information is used on whether or not school leavers had actively looked for another job during the four weeks prior to the survey. Third, the effect of job mismatches on training participation is analysed. Training participation of school leavers is restricted here to participation in continuous vocational training to advance or change the working career (i.e., participation in initial education is excluded) in the four weeks before completing the survey.

Additional characteristics are included in the analysis as independent variables. To control for differences in educational attainment, we also include the level and field of education. Level of education refers to the highest level of education successfully completed when leaving initial education. It is measured in terms of ISCED 1997 (see OECD (1999) for more details). We distinguish between two levels of education: upper secondary and post-secondary, non-tertiary education (ISCED3-4) and tertiary education (ISCED5-6). Field of education refers to the latest educational programme attended before leaving initial education. This definition implies that field of education does not necessarily relate to the highest educational level successfully completed.[3] Eight fields are distinguished (see Andersson and Olsson (1999) for more information): 1) education; 2) humanities and arts; 3) social sciences, business and law; 4) sciences; 5) engineering, manufacturing and construction; 6) agriculture; 7) health and welfare; 8) services. In addition to the measurement of the level and field of education, a variable is included that determines whether a school leaver has obtained a (non-tertiary) vocational qualification.[4] For those who have obtained a vocational qualification, a further distinction is made between school-based, workplace-based or apprenticeship-type vocational qualifications. School leavers for whom adequate information is not available to make such a distinction, are assigned to the category of 'type unknown'.

Other individual characteristics that are taken into account are gender (female versus male) and age. The latter variable is divided into age groups (15-19; 20-24; 25-29; 30-35).

To determine the impact of job characteristics, we use three variables. First, job tenure is taken into account (measured in years). Job tenure is based on the year in which a school

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[3] This is the case only in Denmark and Italy, where information on field of education is related to the highest level of education completed.

[4] Once again, this does not necessarily refer to the highest qualification obtained.

leaver started working in his/her current job. Furthermore, we include information on the nature of the work contract (permanency of the job and full-time versus part-time distinction). The permanency of a job is measured by making the contrast between permanent and temporary jobs. A temporary position is a job with a contract of limited duration. The part-time versus full-time distinction is based on the subjective evaluation of the individual and not on the actual number of hours worked per week.

Labour market circumstances when leaving education are controlled for by using the aggregate unemployment level in the year of entry. The required unemployment figures are published in OECD (2001).[5]

Two organizational characteristics are included in the analysis. We first look at the size of the firm in which school leavers work. We distinguish between small (1-10 persons) and large (11+ persons) firms. Secondly, the economic sector is operationalized by adding a dummy variable that represents individuals working in the public sector.

Finally, differences between countries are taken into account. First, we use a set of country dummies to determine cross-country variation. Then, we investigate to what extent the variation found among the countries can be explained by national differences in the participation rate of upper secondary education students in vocational education. These differences are indicated by two measures (see OECD, 2000: Table 2.2): the proportion of school-based vocational education and the proportion of apprenticeship-type vocational education in a country.

A statistical description of the variables used in the analysis can be found in Table 1.

4 Determinants of job mismatches

Table 2 displays the results of logistic regression models of job mismatch. Model 1 shows that, as expected, young people who left school at the ISCED3-4 level more often experience job mismatches than those who graduated at the ISCED5-6 level. The implied odds ratio is 2.119 ($e^{0.751}$). With respect to field of education, school leavers from humanities/arts, agriculture, and sciences more frequently experience job mismatches than school leavers from education (i.e., reference category). Those from engineering/manufacturing/construction, health/welfare, social sciences/business/law, and services, in contrast, have a smaller likelihood of being employed in non-matching jobs. Only a few covariates for (non-tertiary) vocational qualification have significant effects on the odds of having a job mismatch. Only school leavers who have obtained a vocational qualification, but for whom information on

[5] The unemployment data from Slovenia are based on ILO (2001).

Table 1: Statistical description of the variables used in the analysis (N = 36,268)

Variable	minimum	maximum	mean	standard deviation
Job mismatch (vs. job match)	0.000	1.000	0.361	0.480
Occupational status (ISEI)	16.000	85.000	46.381	15.095
Looking for another job (vs. not looking)	0.000	1.000	0.099	0.299
Participating in continuous training (vs. not participating)	0.000	1.000	0.051	0.221
ISCED3-4 (vs. ISCED5-6)	0.000	1.000	0.555	0.497
Field of education (vs. education)				
Humanities, arts	0.000	1.000	0.064	0.244
Social sciences, business, law	0.000	1.000	0.331	0.471
Sciences	0.000	1.000	0.065	0.247
Engineering, manufacturing, construction	0.000	1.000	0.297	0.457
Agriculture	0.000	1.000	0.025	0.155
Health, welfare	0.000	1.000	0.087	0.282
Services	0.000	1.000	0.083	0.276
Vocational (non-tertiary) qualification (vs. no)				
Yes, school-based	0.000	1.000	0.103	0.304
Yes, workplace-based	0.000	1.000	0.002	0.045
Yes, apprenticeship-type	0.000	1.000	0.035	0.185
Yes, type unknown	0.000	1.000	0.318	0.466
Female (vs. male)	0.000	1.000	0.504	0.500
Age (vs. 15-19)				
20-24	0.000	1.000	0.327	0.469
25-29	0.000	1.000	0.477	0.500
30-35	0.000	1.000	0.173	0.378
Job tenure (years)	0.000	10.000	2.713	2.856
Temporary job (vs. permanent job)	0.000	1.000	0.244	0.429
Part-time job (vs. full-time job)	0.000	1.000	0.098	0.297
Unemployment level in entry year (%)	2.600	23.700	11.280	4.411
Larger firm (vs. small firm)	0.000	1.000	0.691	0.462
Public sector (vs. private sector)	0.000	1.000	0.235	0.424
Country (vs. the Netherlands)				
Austria	0.000	1.000	0.055	0.228
Belgium	0.000	1.000	0.039	0.192
Denmark	0.000	1.000	0.027	0.162
Spain	0.000	1.000	0.156	0.362
Finland	0.000	1.000	0.043	0.204
France	0.000	1.000	0.246	0.431
Greece	0.000	1.000	0.058	0.233
Hungary	0.000	1.000	0.116	0.321
Italy	0.000	1.000	0.174	0.379
Luxembourg	0.000	1.000	0.004	0.060
Sweden	0.000	1.000	0.030	0.170
Slovenia	0.000	1.000	0.033	0.178
Proportion of school-based vocational education (%/10)	1.100	7.200	4.879	1.690
Proportion of apprenticeship-type vocational education (%/10)	0.000	4.400	0.739	1.165

Source: EU LFS 2000 ad hoc module on school-to-work transitions

the type of the vocational qualification is missing, are somewhat more often employed in a non-matching job. Furthermore, the results of model 1 indicate that men are more often employed in a job that does not fit their field of education attended than women. Also, older workers are more likely to be working in a non-matching job than younger workers.

In addition to these individual factors, specific job characteristics impact job mismatches. First, job tenure has a negative effect on the likelihood of being employed in a non-matching job. School leavers who have worked for a long time in their current jobs are less likely to experience job mismatches than school leavers who recently obtained their current jobs. Second, school leavers who have temporary contracts are more often in jobs that do not match their fields of education attended than those with permanent contracts. Third, school leavers with part-time jobs more often experience job mismatches than those who work full-time.

With respect to structural circumstances, it is found in model 1 that the aggregate unemployment rate in the year of labour market entry has a significant positive effect on the odds of having a job mismatch for school leavers. This finding indicates that in times of high unemployment school leavers more often have to accept jobs that do not fit their fields of education than in times of low unemployment. Also, the structure of the organization a school leaver is working in affects the odds of having a job mismatch. In larger firms, the likelihood of having a non-matching job is less than in small ones. Moreover, school leavers who work in the public sector are less likely to be employed in non-matching jobs than those who work in the private sector.

Model 2 presents cross-country differences in the odds of having a job mismatch. The country dummies show that in Italy, Denmark, Greece, Hungary, and Sweden the incidence of job mismatches among school leavers is significantly higher than in the Netherlands (i.e., reference category). In Luxembourg, on the other hand, the odds of having a job mismatch is significantly lower. All other countries show results that do not deviate significantly from the Netherlands.

In model 3, we test to what extent the variation found between the countries can be explained by national differences in the participation of upper secondary education students in vocational education. These differences are measured by two indicators: the proportion of school-based vocational education and the proportion of apprenticeship-type vocational education. By comparing the fit of the models 1, 2, and 3, it can be calculated that almost one quarter of the total cross-country variation can be attributed to both country characteristics ((3,430 - 3,391) / (3,561 - 3,391) = 0.229). Figure 1 depicts the impact of these country characteristics. The regression lines show the estimated effects of model 3, whereas the dots represent the observed percentages for each individual country.

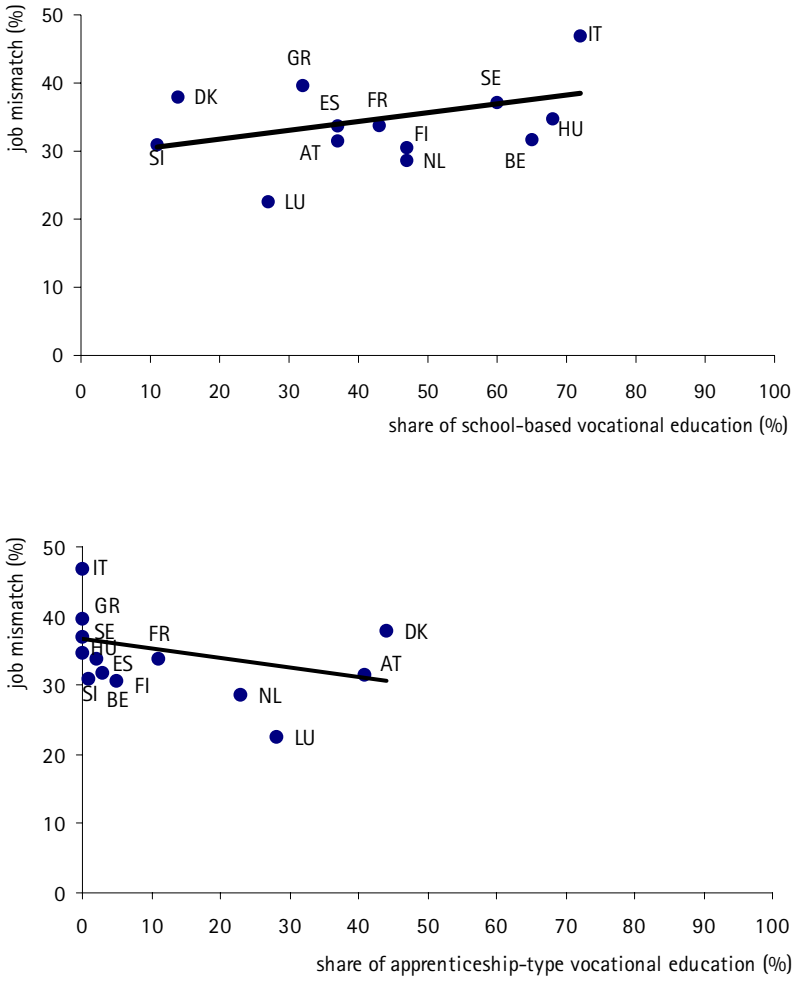
Table 2: Results of logistic regression analysis of having a job mismatch: logit effects (N = 36,268)

Model	1	2	3
Constant	-0.884**	-1.068**	-1.078**
ISCED3-4 (vs. ISCED5-6)	0.751**	0.713**	0.720**
Field of education (vs. education)			
Humanities, arts	0.992**	0.996**	1.001**
Social sciences, business, law	-0.748**	-0.713**	-0.723**
Sciences	0.383**	0.409**	0.396**
Engineering, manufacturing, construction	-1.075**	-1.036**	-1.059**
Agriculture	0.551**	0.604**	0.580**
Health, welfare	-0.885**	-0.813**	-0.857**
Services	-0.717**	-0.688**	-0.706**
Vocational (non-tertiary) qualification (vs. no)			
Yes, school-based	0.001	0.076	0.048
Yes, workplace-based	-0.251	-0.148	-0.230
Yes, apprenticeship-type	0.075	0.223*	0.171*
Yes, type unknown	0.090**	-0.023	0.078*
Female (vs. male)	-0.059*	-0.064*	-0.060*
Age (vs. 15-19)			
20-24	0.195*	0.171*	0.189*
25-29	0.274**	0.229**	0.273**
30-35	0.301**	0.208*	0.299**
Job tenure (years)	-0.033**	-0.031**	-0.032**
Temporary job (vs. permanent job)	0.165**	0.195**	0.180**
Part-time job (vs. full-time job)	0.160**	0.197**	0.168**
Unemployment level in entry year (%)	0.014**	0.012	0.014**
Larger firm (vs. small firm)	-0.149**	-0.122**	-0.148**
Public sector (vs. private sector)	-0.246**	-0.249**	-0.249**
Country (vs. the Netherlands)			
Austria		0.027	
Belgium		0.180	
Denmark		0.495**	
Spain		0.178	
Finland		-0.001	
France		0.138	
Greece		0.336**	
Hungary		0.247*	
Italy		0.516**	
Luxembourg		-0.654**	
Sweden		0.245*	
Slovenia		0.064	
Proportion of school-based vocational education (%/10)			0.040**
Proportion of apprenticeship-type vocational education (%/10)			-0.015
Model Chi^2	3,391**	3,561**	3,430**
Df	22	34	24
Pseudo R^2	0.122	0.128	0.124

* $p < 0.05$; ** $p < 0.01$

Source: EU LFS 2000 ad hoc module on school-to-work transitions

Figure 1: The relationship between the proportion of school-based or apprenticeship-type vocational education in a country and the likelihood of having a job mismatch



Source: EU LFS 2000 ad hoc module on school-to-work transitions

The first part of this figure shows that in countries where the percentage of upper secondary education students in school-based vocational education is high, the incidence of job mismatches among school leavers is higher than in countries where the percentage of upper secondary education students in school-based vocational education is low. According to model 3 of Table 2, this effect is significant. With respect to the proportion of upper secondary education students in an apprenticeship, it seems that the higher this percentage is in a country, the lower the incidence of job mismatches among school leavers (see the second part of Figure 1). This effect, however, is not significant.

5 Labour market effects of job mismatches

5.1 Occupational status attainment

In Table 3, the results of linear regression analysis of achieved occupational status are presented. Model 1 shows that school leavers with a job mismatch attain significantly lower occupational status than school leavers with a matching job. The difference is 5.021 status points. Once other characteristics are taken into account, the low occupational status for those with a job mismatch remains significant (see model 2). Now, the difference in occupational status is 4.207 points. Of these other characteristics, level of education has a strong positive impact on the occupational status achieved. School leavers with ISCED3-4 level achieve occupational status 11.163 points lower than graduates from ISCED5-6. Differences among fields of education exist as well. Graduates who earned a degree in sciences achieve significantly more occupational status than those from education. School leavers from health/welfare, services, agriculture, and engineering/manufacturing/ construction, in contrast, receive lower occupational status for the jobs they hold. Furthermore, age differences in status attainment are present: older workers hold jobs of higher occupational status than younger workers.

When examining job characteristics, job tenure has a negative effect on achieved occupational status. This finding can be interpreted as follows: the longer someone stays in his/her current job, the less likely it is that he/she will be promoted to a job with higher occupational status. The type of job contract has a negative impact on achieved occupational status as well. School leavers with a temporary and/or part-time job have jobs with less occupational status than school leavers with a permanent and/or full-time job. The estimated difference in status is 1.904 and 2.370 points respectively.

School leavers who enter the labour market during an economic recession achieve lower occupational status in their job than school leavers who start working during a period of economic growth. The estimated regression coefficient indicates that an increase of the aggregate unemployment rate of ten percent coincides with a loss in occupational status of more than 3 points (10 * -0.343 = -3.430). Furthermore, school leavers who work in the public sector attain significantly more occupational status than school leavers who are employed in the private sector.

Model 3 indicates that the average occupational status achieved by school leavers differs significantly among countries. In Austria, school leavers attain the highest occupational status; in France they achieve the least. The difference in the average achieved occupational status between these countries exceeds seven status points (1.516 + 5.803 = 7.319).

In model 4, the country dummies have been replaced by the two country characteristics measuring national differences in the participation of upper secondary education students in

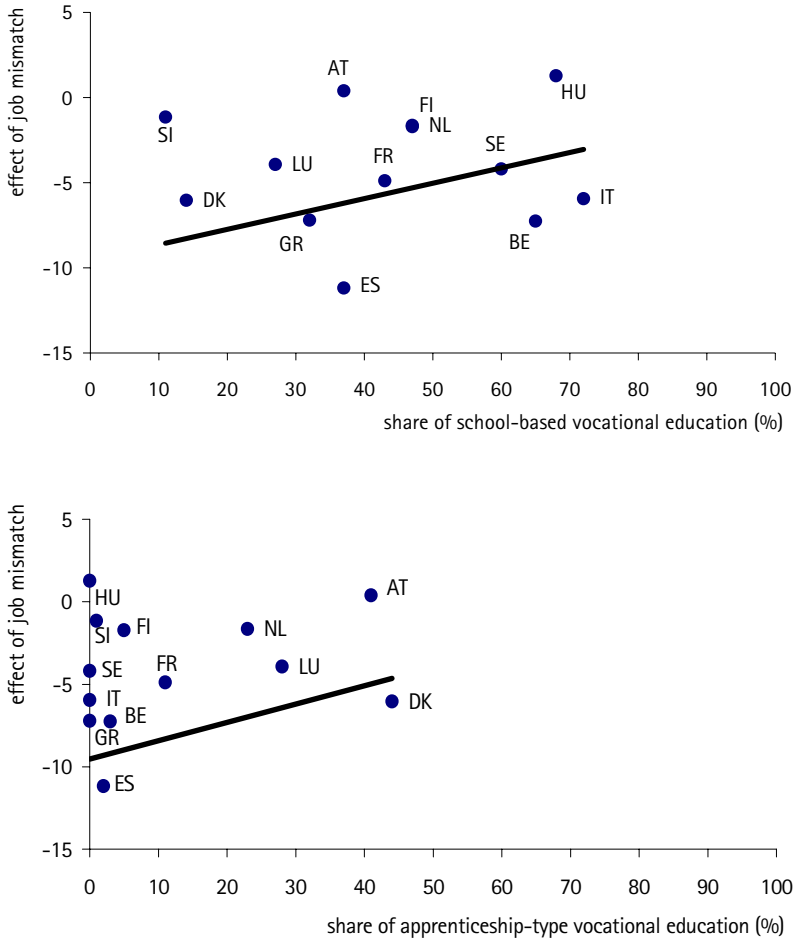
Table 3: Results of linear regression analysis of achieved occupational status (ISEI): unstandardized regression effects (N = 36,268)

Model	1	2	3	4	5
Constant	48.193**	57.598**	58.013**	54.667**	56.532**
Job mismatch (vs. job match)	-5.021**	-4.207**	-4.397**	-4.286**	-9.541**
ISCED3-4 (vs. ISCED5-6)		-11.163**	-12.569**	-11.628**	-11.619**
Field of education (vs. education)					
Humanities, arts		0.624	1.440**	0.763	0.748
Social sciences, business, law		-0.271	0.783*	0.102	0.011
Sciences		3.813**	4.895**	4.008**	3.961**
Engineering, manufacturing, construction		-4.643**	-3.732**	-4.398**	-4.500**
Agriculture		-4.975**	-3.908**	-4.528**	-4.690**
Health, welfare		-6.172**	-4.919**	-5.768**	-5.795**
Services		-5.529**	-4.942**	-5.346**	-5.474**
Vocational (non-tertiary) qualification (vs. no)					
Yes, school-based		0.201	0.054	0.868**	.984**
Yes, workplace-based		-1.437	-1.859	-1.116	-1.073
Yes, apprenticeship-type		-2.979**	-4.598**	-1.554**	-1.599**
Yes, type unknown		-1.162**	-0.054	-1.343**	-1.431**
Female (vs. male)		0.087	0.010	0.072	0.050
Age (vs. 15-19)					
20-24		4.161**	3.528**	4.080**	4.115**
25-29		7.081**	6.544**	7.082**	7.090**
30-35		10.427**	9.794**	10.414**	10.366**
Job tenure (years)		-0.200**	-0.238**	-0.190**	-0.185**
Temporary job (vs. permanent job)		-1.904**	-1.535**	-1.687**	-1.646**
Part-time job (vs. full-time job)		-2.370**	-1.781**	-2.262**	-2.255**
Unemployment level in entry year (%)		-0.343**	-0.153**	-0.346**	-0.348**
Larger firm (vs. small firm)		-0.051	0.312*	-0.029	-0.049
Public sector (vs. private sector)		2.859**	2.825**	2.821**	2.767**
Country (vs. the Netherlands)					
Austria			1.516*		
Belgium			-3.351**		
Denmark			-4.773**		
Spain			-4.561**		
Finland			-2.049**		
France			-5.803**		
Greece			-0.939		
Hungary			-0.496		
Italy			0.322		
Luxembourg			-2.499*		
Sweden			-4.141**		
Slovenia			-0.953		
Proportion of school-based vocational education (%/10)				0.609**	0.294**
Proportion of apprenticeship-type vocational education (%/10)				-0.219**	-0.579**
Interactions with job mismatch (vs. job match)					
Proportion of school-based vocational education (%/10)					0.902**
Proportion of apprenticeship-type vocational education (%/10)					1.112**
F	950**	844**	606**	794**	742**
Df	1	23	35	25	27
Adjusted R^2	0.025	0.348	0.369	0.353	0.356

* $p < 0.05$; ** $p < 0.01$

Source: EU LFS 2000 ad hoc module on school-to-work transitions

Figure 2: The relationship between the proportion of school-based or apprenticeship-type vocational education in a country and the effect of having a job mismatch on achieved occupational status (ISEI)



Source: EU LFS 2000 ad hoc module on school-to-work transitions

vocational education. The model shows that in countries with a high proportion of school-based vocational education, the average occupational status achieved by school leavers is higher than in countries with a low proportion of school-based vocational education. With respect to the proportion of apprenticeship-type vocational education, the opposite effect is found. In countries where the percentage of upper secondary education students in an apprenticeship is high, the average occupational status attained is lower than in countries where the percentage of upper secondary education students in an apprenticeship is low.

In model 5, statistical interaction terms between the country characteristics and the job mismatch variable are added in order to determine the impact of both educational characteristics on the relationship between having a job mismatch and the occupational status achieved. Figure 2 presents the results of model 5. The regression lines display the estimated loss in occupational status as a result of having a job mismatch for varying proportions of school-based or apprenticeship-type vocational education, whereas the dots indicate the observed loss in occupational status for each individual country. The figure demonstrates that the negative effect of having a job mismatch on the occupational status achieved by school leavers is smaller in countries where the proportions of upper secondary education students in school-based and apprenticeship-type vocational education are high than in countries where these proportions are low. This implies that the loss in occupational status among school leavers with a job mismatch is smaller in countries where the education system is more vocationally oriented.

5.2 Job search activities

Table 4 describes the results of logistic regression anlysis of looking for another job. In model 1, we see that for school leavers with a job mismatch, the odds of looking for another job are 1.576 ($e^{0.455}$) times larger than the corresponding odds for school leavers with a matching job. This effect is reduced to some extent if other factors are taken into account. Nevertheless, model 2 shows that, other things being equal, the estimated effect is still significant, with an implied odds ratio of 1.399 ($e^{0.336}$). In addition, model 2 shows that school leavers with a certificate at the ISCED3-4 level are looking for another job less often than graduates with a degree at the ISCED5-6 level. Differences between fields of education with respect to job search activities hardly exist. Only school leavers from agriculture are looking for a job significantly less often than those from education. The obtainment of a (non-tertiary) vocational qualification affects job search activities as well. School leavers with a school-based vocational qualification or with a vocational qualification of which the type of training is unknown are more often looking for another job than those who have not obtained a vocational qualification. Furthermore, age has a positive effect on the likelihood of looking for another job. For school leavers within the oldest age group, the odds of looking for another job are 1.756 ($e^{0.563}$) times larger than the corresponding odds for school leavers within the youngest age group.

Job tenure has a negative effect on job search activities. The longer a school leaver has been in his/her current job, the less the likelihood of looking for another one. Atypical employment is positively related to job search activities. School leavers who work on a temporary and/or part-time basis are more often looking for other jobs than those with permanent and/or full-time positions.

Table 4 Results of logistic regression analysis of looking for another job: logit effects (N = 36,268)

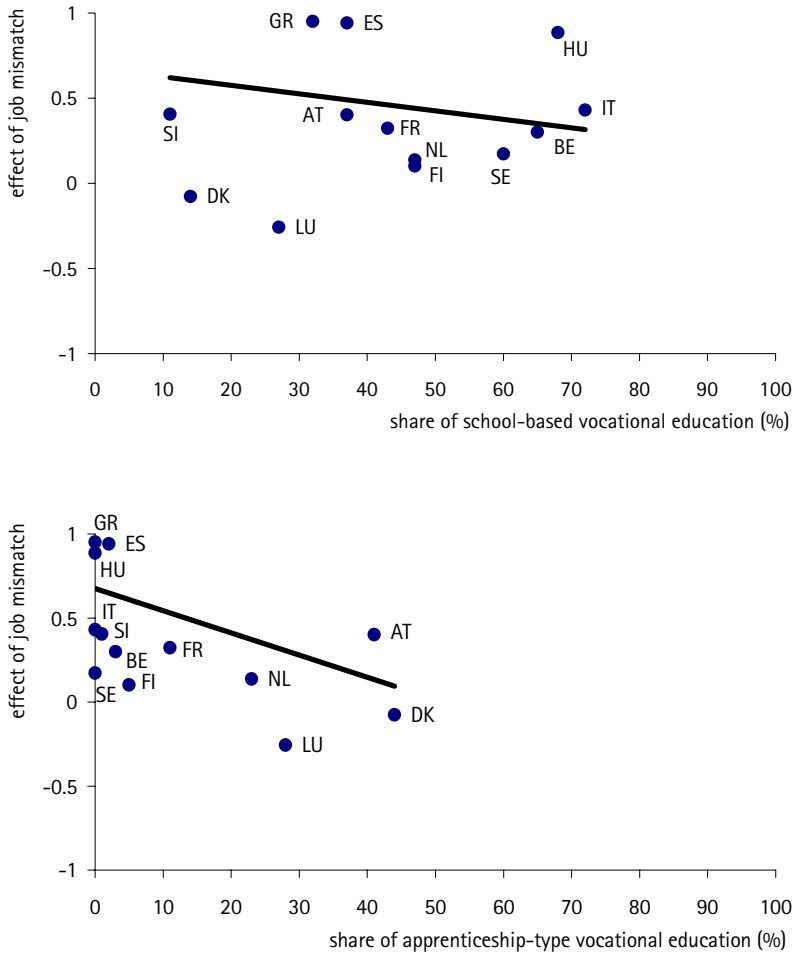
Model	1	2	3	4	5
Constant	-2.393**	-2.686**	-3.277**	-3.136**	-3.295**
Job mismatch (vs. job match)	0.455**	0.336**	0.346**	0.333**	0.675**
ISCED3-4 (vs. ISCED5-6)		-0.423**	-0.243**	-0.443**	-0.443**
Field of education (vs. education)					
Humanities, arts		-0.038	-0.182	-0.026	-0.024
Social sciences, business, law		-0.058	-0.074	-0.027	-0.016
Sciences		-0.116	-0.219	-0.102	-0.095
Engineering, manufacturing, construction		-0.136	-0.095	-0.108	-0.098
Agriculture		-0.430**	-0.361*	-0.393**	-0.375*
Health, welfare		0.039	-0.008	0.075	0.080
Services		-0.103	-0.143	-0.088	-0.076
Vocational (non-tertiary) qualification (vs. no)					
Yes, school-based		0.172*	0.046	0.195**	0.182*
Yes, workplace-based		-0.393	-0.098	-0.373	-0.397
Yes, apprenticeship-type		0.125	0.162	0.082	0.084
Yes, type unknown		0.699**	0.093	0.652**	0.655**
Female (vs. male)		0.007	0.030	0.008	0.009
Age (vs. 15-19)					
20-24		0.211	0.059	0.186	0.183
25-29		0.489**	0.269*	0.466**	0.465**
30-35		0.563**	0.219	0.536**	0.541**
Job tenure (years)		-0.083**	-0.071**	-0.084**	-0.084**
Temporary job (vs. permanent job)		1.312**	1.325**	1.333**	1.332**
Part-time job (vs. full-time job)		1.185**	1.174**	1.183**	1.183**
Unemployment level in entry year (%)		-0.062**	-0.002	-0.055**	-0.054**
Larger firm (vs. small firm)		-0.188**	-0.145**	-0.190**	-0.189**
Public sector (vs. private sector)		-0.418**	-0.461**	-0.419**	-0.417**
Country (vs. the Netherlands)					
Austria			0.104		
Belgium			0.385*		
Denmark			0.579**		
Spain			-0.714**		
Finland			0.660**		
France			0.375*		
Greece			0.028		
Hungary			-1.709**		
Italy			0.674**		
Luxembourg			0.640		
Sweden			0.918**		
Slovenia			-0.351		
Proportion of school-based vocational education (%/10)				0.072**	0.093**
Proportion of apprenticeship-type vocational education (%/10)				0.055*	0.109**
Interactions with job mismatch (vs. job match)					
Proportion of school-based vocational education (%/10)					-0.050
Proportion of apprenticeship-type vocational education (%/10)					-0.132**
Model Chi^2	162**	2,901**	3,440**	2,923**	2,933**
Df	1	23	35	25	27
Pseudo R^2	0.009	0.162	0.190	0.163	0.163

* $p < 0.05$; ** $p < 0.01$

Source: EU LFS 2000 ad hoc module on school-to-work transitions

Model 2 demonstrates that in times of high unemployment the probability of job search among school leavers is smaller than in times of low unemployment. This finding suggests that individuals look for job security during an economic recession and do not want to risk losing established rights by changing jobs. Moreover, there are few alternative jobs available during a recession, which renders the costs of finding one high.

Figure 3: The relationship between the proportion of school-based or apprenticeship-type vocational education in a country and the effect of having a job mismatch on looking for another job



Source: EU LFS 2000 ad hoc module on school-to-work transitions

The organizational characteristics controlled for in the analysis significantly affect job search activities. School leavers who work in larger firms and/or the public sector look for other jobs less often than school leavers who are employed in small firms and/or the private sector.

Model 3 shows that the incidence of job search activities differs cross-nationally. Swedish school leavers look for other jobs most often, followed by school leavers from Italy, Finland, Denmark, Belgium, and France. In Hungary and Spain, on the other hand, job search activities are found the least often among school leavers.

In model 4, the country dummies have again been replaced by the two characteristics of the education system in a country. Both characteristics are significant and indicate that in countries with a high proportion of school-based or apprenticeship-type vocational education, job search activities among school leavers are higher than in countries with a low proportion of both kinds of vocational education.

In model 5, interactions between the two country characteristics and the job mismatch variable are added again. Figure 3 illustrates the results of this model. The regression lines display the logit effect of having a job mismatch on the likelihood of looking for another job for varying proportions of school-based or apprenticeship-type vocational education, whereas the dots represent the observed logit for each individual country. The figure shows that the positive effect of having a job mismatch on job search activities among school leavers is smaller in countries where the proportions of upper secondary education students in school-based or apprenticeship-type vocational education are high than in countries where these proportions are low. The interaction effect is only significant when considering the proportion of apprenticeship-type vocational education.

5.3 Participation in continuous vocational training

In Table 5, the findings of logistic regression analysis of participating in continuous vocational training are presented. Model 1 shows that, on average, school leavers with a job mismatch participate less often in continuous vocational training than school leavers with a matching job. The implied odds ratio is 0.795 ($e^{-0.229}$). After taking individual, job, and structural characteristics into account in model 2, the estimated odds ratio takes the value of 0.872 ($e^{-0.137}$). Of these characteristics, the level of education attained by school leavers has a positive effect on training participation. School leavers with ISCED3-4 level participate less often in continuous vocational training than graduates with ISCED5-6 level. In addition, the field of education attended by school leavers has an effect on the likelihood of training participation. In any field of education, with the exception of sciences, participation in continuous vocational training is significantly higher than in education. The probability of continuous vocational training also depends on whether or not a school leaver has obtained a (non-tertiary) vocational qualification. School leavers with a school-based vocational qualification participate more frequently in continuous training than those with no

vocational qualification. School leavers with a vocational qualification of which the type of training is unknown, in contrast, participate less often in continuous training. In addition, women are less often involved in continuous training than men. And school leavers in the 25-29 years age group participate most often in continuous vocational education.

Model 2 shows that job tenure has a negative effect on training participation. The longer a school leaver is employed in his/her current job, the lower the probability that he/she participates in continuous vocational education. Furthermore, one aspect of the type of the employment contract matters to training participation. School leavers with a temporary job more often participate in continuous vocational training than those with a permanent one. Most likely, labour market entrants invest in additional training to acquire firm-specific skills. After this training is completed and the acquired skills have been successfully applied in the firm, employers change the temporary contracts into permanent ones.

In times of high unemployment, investments in continuous vocational education are smaller than in times of low unemployment. Furthermore, in larger firms and in the public sector, the probability of training participation among school leavers is higher than in small firms and the private sector.

Once differences in training participation between countries are taken into account, the effect of job mismatches becomes non-significant (see model 3). This means that the previously discussed effect of job mismatches on the likelihood of participating in continuous vocational training is the result of the country-specific composition of the data. Model 3 demonstrates that the incidence of continuous vocational training is highest in Denmark and Finland. In Spain, Italy, and Greece, on the other hand, the participation in continuous vocational training is lowest. So, when examining training participation among school leavers, there is a clear north-south division within Europe.

According to model 4, the vocational orientation of the education system has a positive impact on the incidence of training participation. In countries where the proportion of school-based or apprenticeship-type vocational education is high, school leavers are more likely to participate in continuous vocational training than in countries where these proportions are low. At the macro level, continuous vocational training builds on the occupation-specific skills already acquired in initial education.

Model 5 further qualifies the effect of job mismatches on training participation. By including interactions between the country characteristics that measure the vocational orientation of the education system and the job mismatch variable, it turns out that the effect of job mismatches is actually positive in countries with a low proportion of school-based or apprenticeship-type vocational training (see Figure 4). The higher these proportions are, however, the smaller the impact of job mismatches on the likelihood of participating in continuous vocational training. In the case of school-based vocational education, where the interaction term is significant, the effect of job mismatches even becomes negative after a certain point.

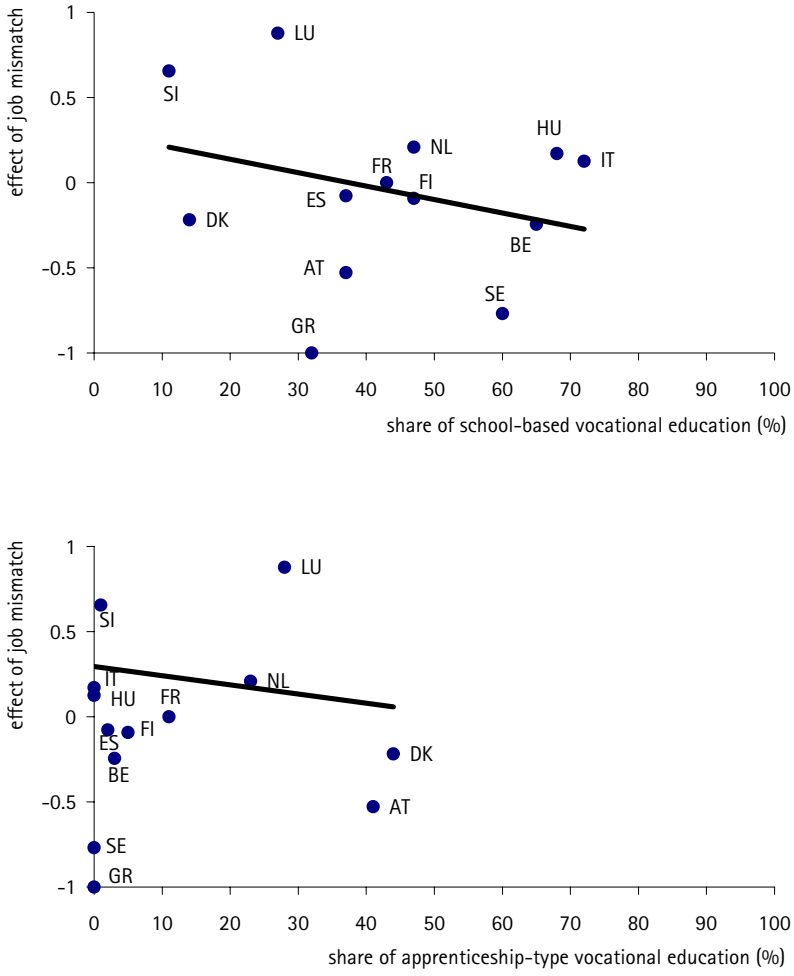
Table 5: Results of logistic regression analysis of participating in continuous vocational training: logit effects (N = 36,268)

Model	1	2	3	4	5
Constant	-2.841**	-1.461**	-2.095**	-2.246**	-2.394**
Job mismatch (vs. job match)	-0.229**	-0.137*	-0.103	-0.137*	0.296
ISCED3-4 (vs. ISCED5-6)		-0.374**	-0.399**	-0.306**	-0.308**
Field of education (vs. education)					
Humanities, arts		0.454**	0.602**	0.485**	0.486**
Social sciences, business, law		0.487**	0.464**	0.468**	0.472**
Sciences		-0.053	-0.045	-0.047	-0.044
Engineering, manufacturing, construction		0.272*	0.082	0.291*	0.297*
Agriculture		0.500**	0.166	0.477*	0.491**
Health, welfare		0.432**	0.178	0.428**	0.433**
Services		0.346*	0.103	0.363*	0.369*
Vocational (non-tertiary) qualification (vs. no)					
Yes, school-based		0.597**	0.311**	0.447**	0.444**
Yes, workplace-based		0.530	0.869*	0.524	0.521
Yes, apprenticeship-type		0.125	0.037	-0.349**	-0.347**
Yes, type unknown		-0.384**	-0.039	-0.473**	-0.466**
Female (vs. male)		-0.199**	-0.202**	-0.200**	-0.198**
Age (vs. 15-19)					
20-24		0.232	0.031	0.194	0.190
25-29		0.376*	0.160	0.340	0.337
30-35		0.355	0.108	0.334	0.333
Job tenure (years)		-0.027**	-0.010	-0.040**	-0.040**
Temporary job (vs. permanent job)		0.307**	0.376**	0.336**	0.334**
Part-time job (vs. full-time job)		-0.031	-0.130	-0.083	-0.086
Unemployment level in entry year (%)		-0.160**	0.037*	-0.120**	-0.119**
Larger firm (vs. small firm)		0.203**	0.027	0.157**	0.159**
Public sector (vs. private sector)		0.375**	0.370**	0.383**	0.384*
Country (vs. the Netherlands)					
Austria			0.097		
Belgium			-0.357*		
Denmark			0.424**		
Spain			-4.225**		
Finland			0.378*		
France			-1.242**		
Greece			-3.271**		
Hungary			-0.679**		
Italy			-3.364**		
Luxembourg			-1.177*		
Sweden			0.105		
Slovenia			-1.011**		
Proportion of school-based vocational education (%/10)				0.057**	0.083**
Proportion of apprenticeship-type vocational education (%/10)				0.243**	0.260**
Interactions with job mismatch (vs. job match)					
Proportion of school-based vocational education (%/10)					-0.079*
Proportion of apprenticeship-type vocational education (%/10)					-0.054
Model Chi^2	20**	925**	2,272**	1,028**	1,032**
Df	1	23	35	25	27
Pseudo R^2	0.002	0.076	0.183	0.084	0.084

* $p < 0.05$; ** $p < 0.01$

Source: EU LFS 2000 ad hoc module on school-to-work transitions

Figure 4: The relationship between the proportion of school-based or apprenticeship-type vocational education in a country and the effect of having a job mismatch on participating in continuous vocational training



Source: EU LFS 2000 ad hoc module on school-to-work transitions

6 Conclusions and discussion

In this paper, we have investigated the determinants of job mismatches with respect to field of education among school leavers in Europe. In addition, the effects of having a job mismatch on the labour market position of school leavers have been examined, with special attention paid to cross-country variation. For this purpose, data from the EU LFS 2000 ad hoc module on school-to-work transitions was used in the empirical analysis.

The results of this analysis show that several factors affect the likelihood of having a job mismatch. First, individual characteristics are influential. As expected, more educated and occupation-specific qualified school leavers are less often employed in a job that does not fit the field of education attended in initial education than less educated and less occupation-specific trained school leavers. The obtainment of a (non-tertiary) vocational qualification, however, hardly affects the likelihood of being in a non-matching job. Surprisingly, male school leavers more often experience job mismatches than their female counterparts. Furthermore, older employees are more likely to be working in a non-matching job than younger ones. Secondly, the odds of having a job mismatch is determined by different job characteristics. According to our hypothesis, job tenure has a negative effect on the likelihood of having a job mismatch. Moreover, the type of the employment contract has the anticipated effect. School leavers with a temporary and/or part-time contract are more frequently employed in a job that does not match the fields of education attended than those with a permanent and/or full-time contract. Thirdly, structural characteristics affect the probability of having a job mismatch. In times of high unemployment, the likelihood of having a job mismatch is higher than in times of low unemployment. In addition, school leavers who work in larger firms and/or the public sector are less likely to experience a job mismatch than those who are employed in small firms and/or the private sector. These findings are in support of the formulated hypotheses. Fourthly, the incidence of job mismatches differs among European countries. Almost one quarter of this cross-country variation can be attributed to national differences in the participation of upper secondary education students in vocational education. The findings show that, opposite to our expectations, in countries where the proportion of upper secondary education students in school-based vocational education is high, the incidence of job mismatches among school leavers is higher than in countries where the proportion of upper secondary education students in school-based vocational education is low.

After examining the labour market effects of job mismatches, the most important finding is that school leavers with non-matching jobs achieve lower occupational status than those with a matching one. However, the effect of having a job mismatch on achieved occupational status varies among European countries. The loss in occupational status among school leavers with a job mismatch is smaller in countries where the education

system is more vocationally oriented, i.e., where the proportion of school-based or apprenticeship-type vocational education is higher.

Moreover, the analysis reveals that school leavers with a job mismatch use adjustment strategies to improve the job fit. One strategy involves job search activities. School leavers with non-matching jobs are more frequently looking for other jobs than school leavers with matching jobs. Once again, the impact of job mismatches differs within Europe. In countries where the proportion of school-based vocational education is high, the effect of having a job mismatch on the likelihood of looking for another job is smaller than in countries where this share is low. A second adjustment strategy concerns training participation. The results are less clear in this respect. On average, there is a negative effect of having a job mismatch on the probability of participating in continuous vocational training. However, the interaction between job mismatch and characteristics of the education system indicates that in countries where the share of school-based or apprenticeship-type vocational education is low, the impact of having a job mismatch on training participation is positive.

In conclusion, two remaining issues deserve mention. First, the question can be asked whether having a job mismatch with respect to field of education is by definition a negative phenomenon. In contrast with job mismatches regarding level of education (i.e., overeducation), the results of job mismatches with respect to field of education are less clear. If a lack of fit between the field of education attended by school leavers in initial education and the type of job they hold is the result of discrepancies between acquired and required occupation-specific skills, then these job mismatches can be considered as negative. In particular, this is the case in sector-specific jobs. However, in more general jobs occupation-specific skills are less important and a job mismatch based on field of education may reflect the flexibility of that field of education. The empirical findings support the former interpretation. Job mismatches clearly coincide with fewer occupational rewards in the labour market.

Secondly, the analysis of cross-country differences in job mismatches among school leavers remains incomplete. In general, the integration of young people into the labour market depends on whether there is an institutional link between the education and employment system. What actually matters is the extent to which education systems differentiate between general and vocational education. At one extreme is the United Kingdom and – to lesser extent – Ireland, where general programmes dominate the education system. At the other extreme is Germany, characterized by its extensive dual system. Unfortunately, both extremes of this continuum were missing from the analysis, and it is likely that this has affected the cross-national results. Future research should extend the analysis by including data from these countries.

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8 Appendix

Table A1: Field of education and matching jobs

Field of education	matching jobs (ISCO-88 (COM) 3-digit codes)
Education	200, 230, 231-235, 300, 330, 331-334
Humanities, arts	200, 230, 231, 232, 243, 245, 246, 300, 347, 348, 500, 520, 521, 522
Social sciences, business, law	100, 110, 111, 121-123, 130, 131, 200, 230-232, 241-245, 247, 300, 341-344, 346, 400, 401-422
Sciences	200, 211-213, 221, 230-232, 300, 310-313, 321
Engineering, manufacturing, construction	200, 213, 214, 300, 310-315, 700, 710-714, 721-724, 730-734, 740-744, 800, 810-817, 820-829, 831-834
Agriculture	200, 221, 222, 300, 321, 322, 600, 611-615, 800, 833, 900, 920, 921
Health, welfare	200, 221-223, 244, 300, 321-323, 330, 332, 346, 500, 510, 513, 900, 910, 913
Services	300, 345, 400, 410-419, 421, 422, 500, 510-514, 516, 520, 522, 800, 831-834, 900, 910, 913

The Only Way is Up? Employment Protection and Job Mobility among Recent Entrants to European Labour Markets

Markus Gangl

Abstract

The paper addresses the effects of employment protection legislation on job mobility and status attainment among young people entering the labour market. Given that strict employment protection legislation (EPL) has often been shown to reduce the dynamics of labour markets in general, resulting low vacancy levels might also reduce youth chances of both job and upward status mobility, and thus flatten observed status-experience profiles. Data from the European Labour Force Survey 2000 ad hoc module on Transitions from School to Work for 11 European countries supports these assertions. Empirically, both job and status mobility rates are negatively related to strict employment protection legislation. However, the total effect of employment protection on school-to-work transitions is less clear, given that EPL also affects the structure of youth labour markets. Empirical analyses examining first jobs and jobs five years after leaving the educational system show that EPL has a positive effect on occupational attainment for market entrants. These positive EPL effects on the structure of labour markets dominate negative EPL effects on upward mobility chances, i.e. job shopping typically does not compensate for the lack of a good start into working life. These EPL effects are shown to affect the low-skill labour market in particular.

Table of Contents

1 Introduction

While most empirical studies consistently report higher levels of job mobility among those entering the labour market as compared to the core prime-age work force, there is much less agreement among social scientists as to the normative implications of such findings (cf. Ryan, 2001). On the one hand, researchers emphasize positive mobility effects on careers as reflected by the positive experience gradient of wages and occupational status. In part, wages and occupational status among market entrants tend to increase because young people improve wage and occupational outcomes by changing employers (Mincer, 1986; Topel and Ward, 1992; Keith and McWilliams, 1995). Therefore, extensive job shopping among youth is seen as a key mechanism of career development. However, a number of school-to-work studies have pointed out more negative mobility effects, indicating that job mobility might also be partly associated with unemployment experiences and downward status mobility (Hammer, 1997; Bernhardt et al., 2000; cf. Stevens, 1997 for evidence of cumulative downward mobility in the core labour force). For young people who involuntarily leave their jobs or hold a series of contingent or secondary sector jobs, job stability would certainly be the preferred career outcome. In contrast to the job shopping view, this more negative perspective stresses churning and job-hopping behaviour where mobility has few positive career implications to offer in exchange for extended periods of economic insecurity.

These conflicting views are especially relevant when assessing the role of employment protection legislation for youth labour market integration. Recent studies have consistently found stricter regulation of employment contracts to be associated with lower levels of turnover and mobility in labour markets (DiPrete et al., 1997, 2001; Garibaldi et al., 1997; Gregg and Manning, 1997). Given that young people are among the most mobile groups in the labour market, some social scientists have pointed out that this group is more at risk to be negatively affected by low opportunity levels in the labour market. With little opportunity of upward mobility, young people might be effectively trapped in unsatisfactory initial job matches (Osterman, 1995), or might hesitate to accept less attractive initial job offers because of limited opportunities for subsequent advancement (Bernardi et al., 2000). In any event, if employment protection regulation flattens the slope of the experience-status relationship, this implies both lower rates of upward mobility in the early career stages and fewer chances to compensate for early failures in the labour market through subsequent job mobility.

By providing empirical evidence on the effects of employment protection legislation on the structure of status attainment processes, the current paper intends to complement existing sociological research on school-to-work transitions which has largely revolved around the role of education and training systems for youth labour market integration (cf. Allmendinger, 1989; Müller and Shavit, 1998; Shavit and Müller, 2000a, 2000b; Kerckhoff,

1995, 2000; Bills, 1988; Breen et al., 1995; Hannan et al., 1999; Gangl, 2001). In essence, this literature has argued that more tightly structured education and training systems generate more favourable school-to-work transitions because more specific qualifications result in more favourable job-person matches, and thus reduce job-hopping and turbulence during the early career stages. Moreover, specific training arrangements like apprenticeships might offer particular advantages to young people insofar as they generate an early linkage with specific employers, which in turn increases the likelihood of receiving a first job offer quickly (cf. Rosenbaum et al., 1990; Hannan et al., 1999).

Despite its many strengths, the current literature has been much less successful in integrating the institutional structure of labour markets into the explanation of cross-national differences in school-to-work transitions. This is unfortunate insofar as labour market regulation tends to define employers' conditions of contracting labour, which might be seen as a key determinant of job structures in the youth labour market. As an attempt to fill this gap, this paper draws on data from the European Union LFS 2000 ad hoc module on school-to-work transitions covering 11 European countries and estimates the effects of employment protection legislation on job mobility and status outcomes among recent entrants to European labour markets. Methodologically, the paper rests on multilevel methods to account for unobserved heterogeneity among countries and in order to provide valid hypothesis tests in the presence of clustered data. Before presenting the empirical evidence, the underlying theory is developed in Section 2 below, which also contains a brief review of available empirical studies. Section 3 then discusses the data sources and the statistical modelling, while Section 4 contains core descriptive information on job mobility in European labour markets. Results for job mobility models are then presented in Section 5, and Section 6 reassesses this evidence in light of an analysis of the relationship between employment protection legislation and the structure of labour markets. Section 7 summarizes the results suggests conclusions about the role of labour market regulation in shaping school-to-work transitions.

2 Employment protection and labour market behaviour

In the unregulated labour market of neoclassical economics, participants have perfect freedom of contracting and employment contracts are seen as resulting from mutual bargaining processes constrained only by relative market power and the interests of both individual employers and individual employees. Real world labour markets hardly reflect the neoclassical market model, however, especially since unions, collective bargaining institutions, and state regulation of labour markets tend to restrain employers' market power and the freedom of contracting in the labour market (Esping-Andersen and Regini, 2000). Labour market regulation establishes a constrained zone of legally permissible employment

contracts, e.g. by defining minimal standards of hours of work, security, or pay. Labour market regulation thus can be seen as determining the minimally acceptable employment contract in a particular labour market. By introducing these minimal standards, regulation tends to improve the relative market power of workers and thus acts to impose specific contracting costs on employers.

Employment protection legislation (EPL) is a particularly important element of labour market regulation that intends to affect the duration of mutual commitments of employers and workers. In essence, EPL attempts to stabilize existing employment relationships by restricting employers' rights to terminate existing employment relationships at will and by restricting employers' use of short-term, contingent or temporary employment contracts in hiring (Esping-Andersen, 2000; OECD, 1999; Büchtemann and Walwei, 1996). Restrictions established by EPL are legally binding, statutory worker rights and contract parties can seek judicial enforcement if disagreements over contract conditions occur. While actual legal enforcement of statutory rights plays a minor role, there can be little doubt that restricting employer behaviour through EPL is highly effective in lowering worker turnover rates. Numerous recent studies in sociology and labour economics have shown that non-standard jobs without legal protection tend to be less stable than standard contracts of indefinite duration (cf. Kalleberg, 2000; Kalleberg et al., 2000; DiPrete et al., 2001; Giesecke and Groß, 2002; Garibaldi et al., 1997; Gregg and Manning, 1997; Houseman and Polivka, 2000). These results also hold true in cross-national comparisons of job stability across countries that differ in terms of EPL strictness (e.g. Layte et al., 2000; Esping-Andersen, 2000).

Since EPL is effective in restraining employer-initiated turnover, it is expected that EPL strictness will also be negatively related to job mobility rates among young people entering the labour market. Once young people have found their first job, employment relationships should be more stable under binding EPL regulation. Thus the direct effect of EPL on job mobility patterns should be to subdue involuntary job mobility, and therefore reduce the associated risks of downward mobility and permanent scarring (Houseman and Polivka, 2000; Kalleberg et al., 2000; Giesecke and Groß, 2002). However, EPL also reduces turnover rates for the total work force, resulting in a lower level of overall vacancies (DiPrete et al., 1997; Esping-Andersen, 2000; Gregg and Manning, 1997) and hence leading to a shortening of mobility chains on the market (cf. Harrison, 1988; Schettkat, 1992, 1996).

As young people are among the most mobile groups on the market, it is likely that they will be particularly affected by EPL. In addition to the direct effects of EPL already discussed, an indirect effect is even more likely to reduce upward mobility chances. Upon entering the labour market, young people will not yet have acquired a complete set of work skills and job experience alone will continue to add to their productive capacities. Although enhanced job skills will often result in pay increases or promotions within current employers, moving to a different company may actually achieve a better match of individual skills and job

requirements, and result in associated economic gains to workers. The connection between job mobility in early career stages and significant upward mobility among young people (e.g. Allmendinger, 1989; LeGrand and Tåhlin, 1998; Light and McGarry, 1998; Keith and McWilliams, 1995; Murphy and Topel, 1992) is certainly consistent with the assumption that job mobility is a necessary ingredient in favourable individual career development. However, if this assumption is true, the shortened mobility chains associated with stricter EPL would indirectly reduce youth chances of upward mobility. In brief, the arguments may be summed up by the following hypotheses:

H1: Stricter employment protection legislation reduces job mobility rates among young people entering the labour market.

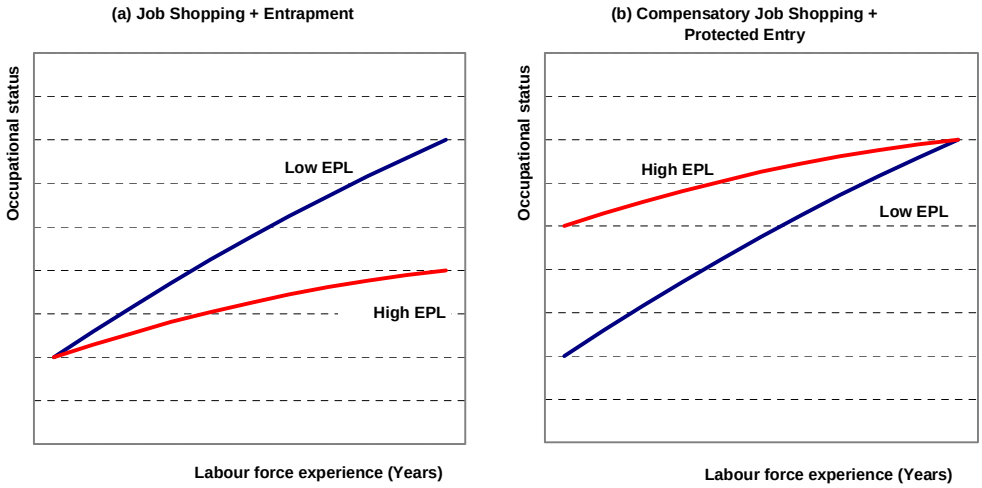
H1a: By stabilizing current employment relationships, stricter employment protection legislation reduces downward mobility risks associated with unemployment experiences.

H1b: By reducing overall vacancy levels in the labour market, stricter employment protection legislation reduces mobility chains, and thus reduces market entrants' upward mobility chances.

In fact, there are a number of reasons why the latter indirect EPL effect on upward mobility chances should empirically dominate the direct EPL effect on downward mobility risks. If, as already suggested, young people are still increasing their human capital during their first years in the labour market, stabilizing current employment relationships might actually be counterproductive and lead to youth entrapment in jobs that are inadequate relative to individuals' increasing levels of human capital (Osterman, 1995). While effective in protecting individuals' current jobs, strict EPL might in fact be detrimental to career dynamics because a reduction in turnover levels in the labour market will also result in fewer opportunities for upward mobility. This effect is expected to be particularly pronounced in the early career stages that depend on cumulative mobility processes (e.g. Stevens, 1997; Keith and McWilliams, 1995). As a consequence, experience-status profiles in strictly regulated labour markets should be flattened in comparison to those common in unregulated environments.

The two panels of Figure 1 illustrate this difference. They also point out that the implications of EPL effects on job mobility very much depend on whether there are EPL effects on the structure of entry labour markets over and above EPL effects on mobility. The standard assumption implicitly built into many studies is depicted by panel (a) to the left: if job mobility implies average status gains for those entering the labour market, higher mobility levels are likely to imply more favourable life-course outcomes – some job shopping may be vital to capture the full economic return to individual skills and capacities (e.g. Mincer, 1986; Topel and Ward, 1992). By limiting upward mobility chances, strict EPL then contributes to entrapment of youth in unsatisfactory early jobs.

Figure 1: Employment protection and status mobility



The reverse assessment is true for the situation depicted in panel (b) to the right. If EPL affects the structure of labour market outcomes in the first place, and in particular if strict EPL tends to raise average status outcomes, then a steeper experience-status profile in less regulated markets may simply indicate compensation for less favourable outcomes in first jobs. For standard economic models, this is not a problematic assumption. Standard economic theory stipulates that raising employers' fixed labour costs – tends to crowd out less productive jobs that generate lower expected revenue than these fixed costs (e.g. Ehrenberg and Smith, 1994). If true, then

H2: By crowding out marginal employment, stricter employment protection legislation affects the structure of entry labour markets, and in particular raises status outcomes among young people entering the labour market.

should hold for the low-skilled youth labour market in particular. While the underlying economic mechanism is well established both theoretically and empirically (e.g. Goux and Maurin, 2000), I unfortunately know of no empirical study that produced supportive evidence in terms of occupational structures. Many existing studies draw on this hypothesis to explain EPL effects on unemployment rates, yet so far there is only mixed evidence of any EPL effect on either unemployment or the level of low-skilled, non-standard or marginal employment (e.g. van der Velden and Wolbers, 2003; OECD 1999). In contrast to these macro level studies, some micro level analyses have recently cast doubt on the scenario depicted in panel (a). However, after controlling for both person- and job-specific heterogeneity, Light and McGarry (1998; cf. similar results in Topel and Ward, 1992), for example, found that young people who experienced persistent mobility in their early years in the labour market had lower wage outcomes than less mobile young workers. Similarly,

LeGrand and Tåhlin (1998) showed that returns to external job mobility tend to fall with the number of job changes.

3 Data and statistical methodology

To perform an empirical test of the assumed relationships between EPL, job mobility, and status attainment, the following analyses draw on data from the European Union Labour Force Survey (EU LFS) 2000 combined with the EU LFS 2000 ad hoc module on school-to-work transitions. In contrast to the standard LFS questionnaire programme on current employment, unemployment and labour force participation (cf. Eurostat, 1998), the LFS 2000 ad hoc module had been specifically designed to generate additional data with respect to the transition from school to work in European labour markets. Conducted as an add-on to the standard LFS survey, the ad hoc module collects information on key variables of interest in transition studies, notably social background, level and type of education at first leaving education, the date of first leaving education and training, the initial search duration for the first significant job as well as the duration and the occupation of this first significant job. The ad hoc module has been implemented in 14 European Union countries excluding Germany, and six Eastern European countries (Hungary, Slovakia, Slovenia, Lithuania, Latvia, and Romania), but the current analyses will be restricted to 10 European Union countries (Belgium, Denmark, Finland, France, Greece, Ireland, Italy, the Netherlands, Portugal, and Sweden) and Hungary, for which reliable mobility data could be generated by combining the ad hoc module data on first jobs with the core EU LFS 2000 information on current employment (cf. Iannelli, 2001 for a detailed evaluation of the data). Varying slightly across countries, the target sample for the EU LFS ad hoc module were all EU LFS respondents who had left initial education and training within the last 5-10 years prior to the survey. In total, the dataset used in this analysis includes some 40.000 observations with valid data on both occupation in first and current jobs as well as all covariates to be described below.

The key dependent variables of the following analyses will be the mobility rate out of first significant jobs and the extent of status mobility between first and current jobs.[1] Job mobility will be defined as an employer change from the first significant job, which includes all non-marginal jobs of at least about 20 hours per week that have lasted for at least six months. Status mobility, in turn, will be defined by the change in ISEI occupational status scores between individuals' first and current jobs (cf. Ganzeboom et al., 1996 on the ISEI

[1] As the ad hoc module does not collect full employment history data, the linked dataset only yields information on individuals' first significant jobs. Hence, the linked EU LFS dataset used here does not give any flexibility in adjusting either the definition of first job, nor does it allow analysts to observe actual mobility processes between first significant and current jobs at the time of the survey interview.

scale). In the current dataset, ISEI scores have been defined at the level of three-digit ISCO88-COM occupations (cf. Eurostat, 1998). As the ad hoc module data does not include information on jobs other than this first significant job, it is not possible to check the consequences of this definition for the analysis. Focusing on first significant jobs rather than including information on any post-school jobs will, to some extent, reduce observed job mobility, particularly if school leavers are likely to hold unstable or low-hours first jobs. As non-standard employment conditions should figure more prominently in less regulated labour markets, the linked EU LFS data used here will tend to underestimate the cross-national variance of job mobility levels. The current paper should thus provide a rather conservative test of the effects of EPL on job mobility behaviour.

This caveat is particularly relevant because EPL effects will be identified through the cross-national comparison between 11 European countries exhibiting quite distinct approaches to labour market regulation. In contrast to weakly regulated labour markets in the U.S., Britain or Ireland, many Continental and Southern European countries developed extensive EPL regulation during the post-war economic boom (Esping-Andersen and Regini, 2000; Grubb and Wells, 1993; OECD, 1999) and despite the macroeconomic problems of the 1980s and 1990s, most countries have been reluctant to allow for greater flexibility in employment relations (cf. OECD, 1999; Anxo and O'Reilly, 2000). It is also important to note that the Scandinavian welfare states have historically relied on statutory EPL to a considerable lesser degree, but have instead focused on both encouraging and buffering adjustment processes on the labour market, while leaving issues of job security to collective bargaining processes (Anxo and O'Reilly, 2000). Also, in general, Eastern European countries have so far been wary to establish strict EPL measures during their transition from state socialism (OECD, 1999). To capture these differences in a single measure, the following analyses rely on a summary index of EPL strictness developed in OECD (1999:66, Table 2.5). The OECD EPL index ranges from 0 to 4, where higher index scores imply stricter employment protection and stricter regulation of the use of flexible forms of work arrangements. Low EPL countries like Britain or Ireland score 0.5 and 0.9 on the index respectively, while the more regulated Southern European labour markets reach index scores around 3.5.

In addition to this institutional variable, all subsequent multivariate analyses will also control for gender, years of education, labour force experience, duration of search for the first significant job, ISEI occupational status in that first job as well as (within-country mean-differenced) unemployment rates at the time of individual entry into the market. Compensatory mobility processes will be controlled for by including the within-education mean-differenced ISEI score of the first job, which indexes individuals' relative occupational attainment within particular levels of education and countries. More elaborate models will also include interaction terms between relative status achievement and the other individual-level covariates in order to provide a more complete description of the social structural conditions of compensatory mobility. As a sensitivity test of the EPL effects, the paper will

also present results for models that include interaction terms between EPL strictness and the individual-level covariates.

In terms of statistical modelling, the following analyses will present estimation results from a series of random-effects multilevel models. In contrast to more standard regression models, multilevel models are preferable in cross-national research because they account for unobserved heterogeneity between countries in the model specification. Even more importantly, multilevel models allow for informative hypothesis tests by adjusting the calculation of standard errors to the amount of information present at different levels of the data (cf. Goldstein, 1995; Longford, 1995).[2] Depending on the nature of the dependent variable, a random-effects logit model will be used to analyze mobility rates out of the first job, while status mobility will be analyzed with both a continuous random-effects linear model and a random-effects multinomial logit model that distinguishes between upward, lateral, and downward mobility. The test of EPL effects on the structure of youth labour markets will be conducted with a set of auxiliary, cross-sectional multilevel status attainment regressions.

4 Job mobility among entrants to the labour market

At a purely descriptive level, the EU LFS data yield ample evidence of substantial job mobility during young peoples' first years in the labour market. On average, about 40% of all school leavers in the 11 European countries left their first significant job within their first five years in the labour market. As shown in Figure 2, which plots mobility rates by labour force experience in years, the proportion of young people who experience job mobility increases over time, although in a curvilinear, concave fashion. In their first year in the labour market, about 10% of all market entrants will already have left their first significant job, and by the second year in the labour force this proportion has increased to about 25%. The proportion of recent school leavers who leave their first job increased to about one third by the fourth year and ultimately to about 40% after five years in the labour force.

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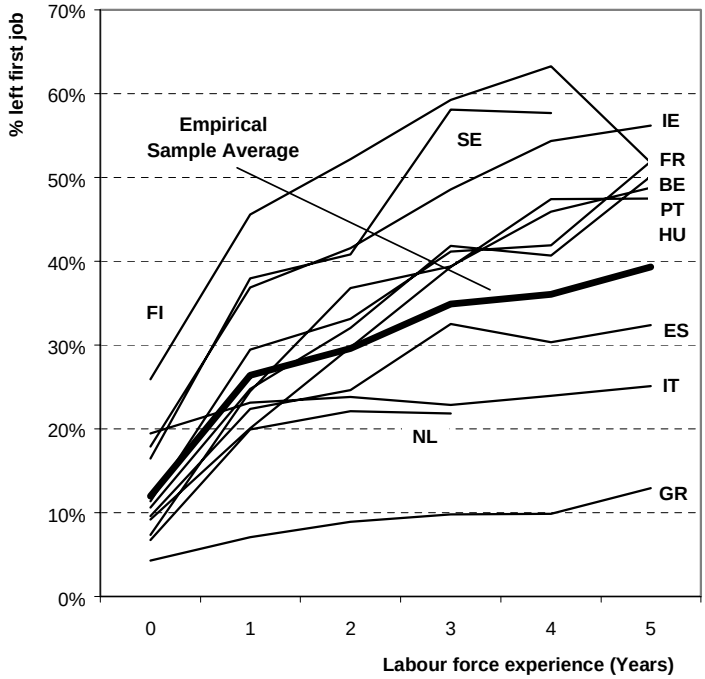
[2] Applying random-effects multilevel models is but one way of calculating appropriate standard errors for hypothesis tests in the presence of clustered data. Given the small sample (N=11) of second-level units in the current analyses, GEE methods or adjusting for the clustered nature of the data in the calculation of standard errors in standard regression models might provide more robust inferences (cf. Diggle et al., 1994). As the substantive implications of the analyses did not differ across these methods, I present results from the random-effects model. This model has the additional feature of providing a variance estimate at the country level, so that the relative explanatory power of EPL strictness can be assessed immediately. Of course, the small N of countries may bias the variance estimate, so these results must be treated as tentative.

Figure 2: Mobility rates out of first job by time in the labour market, 11 European countries

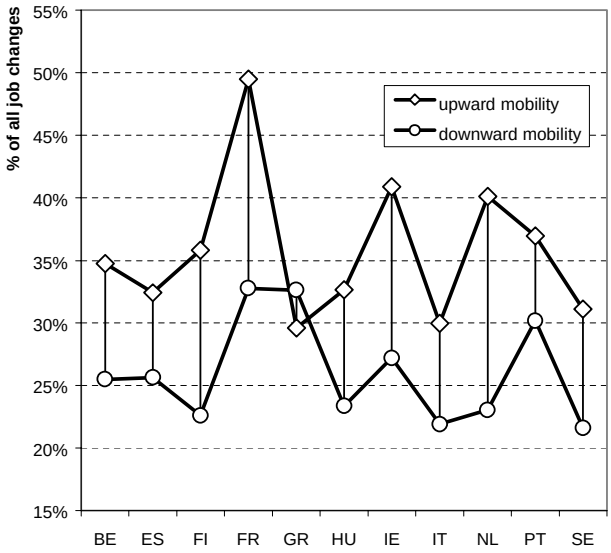


Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work.

Figure 2 indicates that there are notable cross-national differences in mobility rates. In general, and consistent with the earlier hypotheses on EPL effects, mobility rates tend to be lowest in Southern Europe. After five years in the labour force, the mobility rate is about 10% in Greece, 25% in Italy, and slightly above 30% in Spain. In contrast, mobility rates are relatively high in Northern European and Scandinavian countries, particularly in Finland, Sweden, and Ireland. In these countries, between 50% and 60% of all entrants will have left their first significant job within the first four to five years in the labour market. With mobility rates of about 50% within the first five years in the labour market, France, Belgium, Portugal, and Hungary form an intermediate group of countries. The low mobility rate observed in the Netherlands represents a gross underestimation of actual job mobility that results from of a different (and stricter) definition of first significant jobs used in the Dutch data.[3]

[3] Specifically, the Dutch data refer to first significant jobs as jobs held for at least 12 months, instead of six months as in the other countries. Additional comparability problems result from the fact that military service has been included as a possible first job in the Netherlands.

Figure 3: Status mobility from job changes, market entrants in 11 European countries



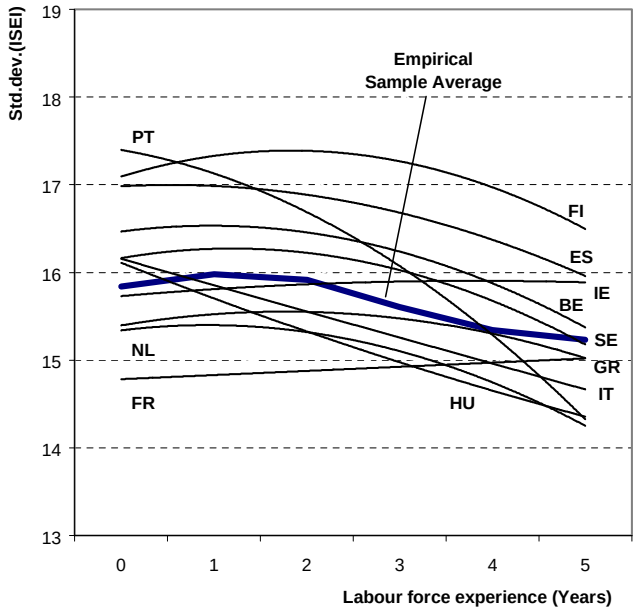
Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work.

As evident in Figure 3, job mobility among labour market entrants on average tends to involve upward rather than downward status mobility. In all 11 European countries but Greece, the proportion of young people experiencing upward status moves exceeds the proportion of young people who had to face downward status mobility. Averaging across the 11 countries, slightly more than one third of all employer changes among market entrants involved upward status mobility and only about one quarter involved downward status mobility. This differential of about 10 percentage points applies to most of the countries in the sample. Also, the data imply that for a substantial proportion of young people, employer changes do not involve any status mobility at all; in most countries, this group is as large as, if not larger, than the proportion of upwardly mobile job changers. Comparing across countries, it seems that school leavers in Ireland, France, and the Netherlands, but also in Hungary, Finland and Sweden experience particularly positive mobility outcomes. On the one hand, the differential between upward and downward mobility rates is particularly pronounced in Ireland, France, and the Netherlands. Downward mobility risks, on the other, are particularly low for school leavers in Hungary, Finland and Sweden. If anything, mobility chances are less favourable in more tightly regulated labour markets in Spain, Portugal, Italy, and Greece. However, observable country differences still appear fairly modest.

There is also some descriptive evidence that upward status mobility processes partly imply compensatory mobility for low achievement in first jobs. As a straightforward descriptive indicator, Figure 4 shows the evolution of the variance of occupational status attainment

over the first years in the labour market. Evidently, the variance of occupational status tends to fall by about one status score point over the first five years in the labour force in the total sample. A similar relationship holds for most individual countries, although some exceptions are notable. Portugal, for example, shows a greater reduction in the variance of occupational status than in any other country, while the data for Ireland and France show no evidence of decreasing variances. However, while indicative of compensatory mobility processes, the cross-national differences observed on this particular indicator are not consistent in any obvious sense with the EPL effects assumed in Section 2 above.

Figure 4: Variance of occupational status by time in the labour market, 11 European countries



Notes: Country-level estimates have been subject to logarithmic smoothing.
Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work.

5 Employment protection and job mobility

Such aggregate statistics result from multiple generative mechanisms, however, and any serious assessment of the effects of employment protection legislation therefore has to rely on more advanced multivariate regression methods that simultaneously control for the effects of different individual, structural, and institutional determinants of mobility behaviour. To assess the effects of EPL on mobility behaviour in particular, I discuss empirical estimation results for three sets of multilevel regression models below. First, Table

1 reports the estimation results for a series of mixed logit models of the probability of job mobility, whereas status outcomes conditional on job mobility will be assessed in two different analyses. Here, I combine evidence for both a continuous status change mixed linear regression model (Table 2) with results from a mixed multinomial logit model that contrasts the determinants of upward versus downward mobility dynamics (cf. Table 3).

5.1 Mobility rates out of first jobs

Examining the incidence of employer changes first, Table 1 reports estimation results for four model specifications of substantively increasing complexity. Among the different specifications, model (1) gives a baseline estimation that includes gender, education, individual labour force experience, macroeconomic conditions, search duration for the first significant job and the occupational status of the first job. Model (1) also includes the relative occupational status within educational groups in order to measure compensating mobility processes. Model (2) adds interactions between relative status and the other covariates to address different conditioning factors underlying compensatory job mobility. To test for institutional effects, model (3) then adds a main EPL effect to model (1), and model (4) enlarges model (2) by including interactions between EPL strength and the other covariates.

This series of models generates some standard results on the determinants of job mobility behaviour among those entering the labour market. Consistent across the four different specifications, job mobility rates are lower among leavers with higher levels of education and leavers who secured high-status employment in their first job. Moreover, job mobility rates decline with search duration for the first significant job, yet mobility rates rise in times of macroeconomic recession. The estimates also show that job mobility rates rise with labour force experience, which in contrast to standard hazard rate models, however, has no interpretation in terms of duration dependence. This result merely reflects the fact that the proportion of young people who experienced a job change naturally rises over the first years in the labour force.[4] After controlling for these different factors, women tend to have somewhat higher mobility rates than men.

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[4] In terms of survival analysis, the difference in interpretation arises from the fact that the logit models presented here can be seen as addressing the cumulative duration distribution $F(t)$ instead of the rate function $r(t)$. Obviously, however, a finding of $f(t)>0$ for all $t>0$ is not informative about duration dependence in $r(t)=f(t)/(1-F(t))$. Given that duration dependence is not a primary issue in this paper, and given substantial data problems in the date variables, it is sensible to set up the model in terms of $F(t)$ rather than rates $r(t)$. In terms of covariate effects other than process time, there should be no appreciable differences between these statistical descriptions of the same underlying event data (cf. Alt et al., 2001).

Table 1: Determinants of mobility rate out of first significant job in 11 European countries, logit mixed model estimates

	(1)	(2)	(3)	(4)
Intercept	-0.048	-0.065	-0.578	-0.041
	(0.167)	(0.167)	(0.140)	(0.157)
Women	0.141**	0.137**	0.141**	0.148**
	(0.025)	(0.026)	(0.025)	(0.028)
Education	-0.072**	-0.073**	-0.073**	-0.078**
	(0.013)	(0.013)	(0.013)	(0.015)
Labour force experience	0.284**	0.284**	0.284**	0.304**
	(0.006)	(0.006)	(0.006)	(0.007)
Duration of job search	-0.029**	-0.029**	-0.029**	-0.032**
	(0.001)	(0.001)	(0.001)	(0.001)
Unemployment rate at market entry	0.108**	0.107**	0.108**	0.095**
	(0.007)	(0.007)	(0.007)	(0.008)
ISEI first job	-0.007**	-0.007*	-0.007*	-0.006
	(0.004)	(0.004)	(0.004)	(0.004)
ΔISEI first job | education	-0.011**	0.007	-0.011**	0.006
	(0.004)	(0.008)	(0.004)	(0.008)
- ΔISEI x women		0.009**		0.009**
		(0.002)		(0.002)
- ΔISEI x education		-0.001**		-0.001**
		($4.0e^{-4}$)		($4.0e^{-4}$)
- ΔISEI x experience		-0.001**		-0.001**
		($4.9e^{-4}$)		($4.9e^{-4}$)
- ΔISEI x job search		$7.3e^{-5}$		$7.9e^{-5}$
		($5.6e^{-5}$)		($5.6e^{-5}$)
- ΔISEI x unemployment		$4.7e^{-4}$		$5.1e^{-4}$
		($5.8e^{-4}$)		($5.8e^{-4}$)
EPL strictness index			-0.383**	-0.424**
			(0.145)	(0.194)
- EPL x ΔISEI				0.001
				(0.002)
- EPL x women				-0.050
				(0.037)
- EPL x education				0.008
				(0.008)
- EPL x experience				-0.044**
				(0.009)
- EPL x job search				0.007**
				(0.001)
- EPL x unemployment				0.026**
				(0.010)
σ^2(country)	0.222**	0.221**	0.141**	0.159**
	(0.087)	(0.087)	(0.057)	(0.065)
Log-likelihood	-22,537	-22,517	-22,537	-22,476

Notes: N=34.687; asymptotic standard errors in parentheses; statistical significance levels at ** p<.05, and * p<.10, respectively.

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work

The estimates also imply that mobility might be compensatory. In particular, the baseline model (1) shows the expected negative effect of relative status attainment in the first job within educational groups. The coefficient is clearly negative, implying that mobility rates tend to be lower among leavers with relatively high status achievement in their first jobs. That is, leavers with relatively favourable status outcomes in their first jobs tend to be less likely to change employers than leavers who found their first employment in occupations that are less adequate to their levels of training. The additional interaction terms included in specification (2) show that such compensatory mobility is particularly pronounced for young men, more highly qualified leavers, and increases over time in the labour market. There are no significant interactions with either the duration of initial job search or macroeconomic conditions at time of entry into the labour market.

In terms of EPL effects, specification (3) provides support for the expectation that stricter EPL indeed lowers mobility rates among market entrants (H1), which presumably occurs through EPL dampening vacancy rates, and thus labour market dynamics more generally. Despite the fact that the analysis is based on merely 11 country cases, the EPL parameter estimate of –0.38 is statistically significant at conventional levels. In addition, there is evidence from the interaction terms included in specification (4) that EPL effects are completely uniform across different leaver groups and over different stages of labour market integration. There seems to be little evidence that EPL affects gender or educational differentials in mobility behaviour to any great extent. Also, EPL does not significantly dampen compensatory mobility behaviour beyond a fall in mobility levels. The interaction of EPL and relative status attainment shows the correct positive sign, yet fails to reach both substantively and statistically significant levels. In contrast, EPL does significantly affect the relation between experience and mobility. Compared to high EPL countries, low EPL countries tend to show steeper slopes in the proportion of exits from first jobs over the first years in the labour market, which implies a more extended stage of turbulence and mobility than in high EPL countries. Also, higher levels of EPL tend to dampen the association between duration of initial job search and mobility, yet amplify the relation between macroeconomic conditions and mobility among market entrants. Interpreting these results with due caution, the country level variance estimates of both models suggest that country differences in EPL indeed explain a substantial fraction of cross-national variation in mobility rates. Judging from the drop in σ^2 between specifications (1) and (3), country differences in EPL may account for about one third of the total cross-country variance in the current dataset.

5.2 Employer change and status mobility

Having discussed the determinants of mobility rates, the questions remain, what determines job mobility outcomes in terms of status mobility and what is the role of EPL? Exactly mirroring the presentation in Table 1 above, Table 2 reports estimation results on the determinants of status mobility between first and current jobs conditional on employer changes. Interestingly, the baseline model (1) yields hardly any effects for standard stratification variables: neither gender, nor levels of education, nor the occupational status in the first jobs explain whether job mobility among entrants to the labour market is associated with status gains or losses. However, there are positive effects of time in the labour force, but the structure of the EU LFS data unfortunately does not allow an assessment of whether the observed positive effect results from either more rewarding job changes at slightly later career stages or from the higher average number of job changes at higher levels of labour market experience. Also, it seems to be the case that school leavers with long initial search durations for their first job tend to have worse mobility outcomes once they leave this first job, so that initial disadvantages tend to cumulate over the early years in the labour market. On the other hand, status mobility outcomes tend to improve if young people found their first job during times of macroeconomic difficulty, which again suggests a compensatory element in young peoples' job mobility behaviour.

The parameter estimate for the ΔISEI variable indeed emphasizes that relative status attainment in the first job is a crucial determinant of status mobility in the early years in the labour market. The more favourable one's first job had been in comparison to the average status outcome of entrants with similar levels of training, the less likely it is that employer changes will lead to (further) status gains. In other words, catching-up for low achievement in the first job is an important aspect of status mobility among market entrants. The interaction terms estimated in specification (2) also indicate that catching-up tends to become more important over the first years in the labour force and if market entry occurred in times of high unemployment levels. There are some indications that compensating status mobility is less pronounced among highly qualified leavers and among leavers with long initial search durations.

In line with theoretical expectations, model specification (3) provides evidence of a substantial negative EPL effect on status mobility, which confirms the earlier expectation that negative EPL effects on upward mobility (H1b) will outweigh positive EPL effects on downward mobility risks (H1a) for a sample of entrants to the labour force. As assumed, there are two sources of lower upward mobility chances of school leavers in more strictly regulated labour markets. First, young people tend to change jobs less often in more regulated markets, and thus structurally tend to realize smaller average status gains in more stable environments. Second, when school leavers in more regulated environments change employers, they tend to face less favourable status mobility outcomes than leavers in more

Table 2: Determinants of status mobility out of first significant job in 11 European countries, linear mixed model estimates

	(1)	(2)	(3)	(4)
Intercept	-0.303	0.064	0.356	-0.164
	(0.427)	(0.414)	(0.415)	(0.481)
Women	-0.142	0.021	-0.139	0.090
	(0.149)	(0.144)	(0.148)	(0.151)
Education	-0.046	-0.037	-0.084	-0.027
	(0.068)	(0.066)	(0.065)	(0.073)
Labour force experience	0.247**	0.212**	0.251**	0.222**
	(0.031)	(0.030)	(0.031)	(0.034)
Duration of job search	-0.027**	-0.021**	-0.026**	-0.022**
	(0.003)	(0.003)	(0.003)	(0.004)
Unemployment rate at market entry	0.123**	0.092**	0.119**	0.084**
	(0.037)	(0.036)	(0.036)	(0.038)
ISEI first job	0.018	0.023	0.029	0.023
	(0.020)	(0.019)	(0.019)	(0.020)
ΔISEI first job | education	-0.313**	-0.275**	-0.324**	-0.276**
	(0.021)	(0.041)	(0.020)	(0.041)
- ΔISEI x women		-0.009		-0.009
		(0.012)		(0.012)
- ΔISEI x education		0.004*		0.004*
		(0.002)		(0.002)
- ΔISEI x experience		-0.061**		-0.061**
		(0.003)		(0.003)
- ΔISEI x job search		0.007**		0.007**
		($2.6e^{-4}$)		($2.6e^{-4}$)
- ΔISEI x unemployment		-0.011**		-0.011**
		(0.003)		(0.003)
EPL strictness index			-0.537**	0.336
			(0.143)	(0.650)
- EPL x ΔISEI				-0.032**
				(0.009)
- EPL x women				-0.350*
				(0.205)
- EPL x education				-0.039
				(0.042)
- EPL x experience				-0.042
				(0.050)
- EPL x job search				0.004
				(0.005)
- EPL x unemployment				-0.037
				(0.047)
σ^2(country)	0.136**	0.118*	0.051	0.062
	(0.076)	(0.074)	(0.050)	(0.059)
Log-likelihood	-49,505	-49,079	-49,501	-49,081

Notes: N=13.530; asymptotic standard errors in parentheses; statistical significance levels at ** p<.05, and * p<.10, respectively.

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work

flexible labour market contexts. As in the earlier analysis of mobility rates, the negative EPL effect of –0.54 ISEI score points per EPL index score point is both substantively and statistically significant even in this small sample of countries. Compared to the job mobility models, the country-level variance estimate suggests an even more important role for EPL in explaining cross-national differences in terms of status mobility between European countries. Again comparing the drop in σ^2 between specifications (1) and (3), and (2) and (4), country differences in EPL strictness account for at least 50% of the total cross-national variance in status mobility.

In terms of substantive EPL effects, the interaction terms in model (4) indicate that strict EPL primarily limits (further) upward status mobility among those with relatively favourable outcomes in first jobs. To some extent, strict EPL tends to restrict cumulative advantages that result in moving from favourable first jobs into even more favourable subsequent jobs. On the other hand, the model yields some evidence that strict EPL might be especially detrimental to the upward mobility chances available to young women. The reasons for this finding are not immediately apparent from this analysis, so this result might be a natural starting point for further research. These results aside, there is no evidence of additional interactions between EPL and the variables included in the analysis.

To confirm these results, Table 3 below presents additional evidence on the determinants of status mobility, replacing the continuous mobility measure with a simpler ordinal measure of status mobility. More specifically, Table 3 has the results of two mixed multinomial logit models that distinguish between upward, lateral, and downward status mobility risks. The two model specifications reported use lateral status mobility as the reference category, and in substantive terms correspond to models (3) and (4) of the earlier analyses. To summarize the findings, the results of the multinomial model are generally consistent with those gained from the simple linear status change models discussed before. Most important in the context of the current paper is the result that strict EPL is found to have virtually no effect on downward status mobility (H1a), while there is some evidence of a negative EPL effect on upward mobility chances (H1b). In contrast to the linear model, however, the respective EPL effect is no longer statistically significant in the multinomial analysis. The multinomial models are also fully consistent with the linear status change model in terms of EPL interaction effects. Again, the estimates provide evidence that EPL tends to limit upward status mobility of leavers with relatively high status attainment in their first job, and that women tend to have lower upward mobility chances in more regulated markets. In addition, the multinomial model also yields evidence of smaller upward mobility chances in the long run, as the experience gradient of upward mobility chances is flatter in more highly regulated contexts. Estimates in specification (4) are also very clear that neither EPL strictness nor any interaction term particularly affects downward mobility risks of young people in their first few years in the labour market.

Table 3: Determinants of status mobility out of first significant job in 11 European countries, multinomial logit mixed model estimates

	(1)		(2)	
	upward	downward	upward	downward
Intercept	0.424	0.245	0.518	-0.042
	(0.261)	(0.226)	(0.290)	(0.268)
Women	0.155**	0.179**	0.209**	0.091
	(0.057)	(0.060)	(0.062)	(0.066)
Education	-0.023	-0.006	-0.021	-0.004
	(0.030)	(0.031)	(0.035)	(0.036)
Labour force experience	0.070**	0.021	0.092**	0.024
	(0.014)	(0.015)	(0.017)	(0.017)
Duration of job search	-0.004**	-0.001	-0.005**	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Unemployment rate at market entry	0.042**	0.038**	0.036*	0.027
	(0.017)	(0.018)	(0.020)	(0.020)
ISEI first job	-0.021**	-0.026**	-0.027**	-0.018*
	(0.009)	(0.009)	(0.009)	(0.009)
ΔISEI first job | education	-0.056**	0.062**	0.007	0.164**
	(0.009)	(0.009)	(0.022)	(0.020)
- ΔISEI x women			0.016**	0.009
			(0.006)	(0.006)
- ΔISEI x education			-0.005**	-0.009**
			(0.001)	(0.001)
- ΔISEI x experience			0.002*	0.004**
			(0.001)	(0.001)
- ΔISEI x job search			$1.5e^{-5}$	$-2.4e^{-4}$
			($1.8e^{-4}$)	($1.8e^{-4}$)
- ΔISEI x unemployment			0.001	$9.2e^{-5}$
			(0.002)	(0.002)
EPL strictness index	-0.164	0.035	0.169	0.007
	(0.236)	(0.165)	(0.355)	(0.327)
- EPL x ΔISEI			-0.014**	0.003
			(0.004)	(0.004)
- EPL x women			-0.204**	-0.053
			(0.076)	(0.082)
- EPL x education			-0.009	0.011
			(0.017)	(0.018)
- EPL x experience			-0.043**	-0.038*
			(0.020)	(0.022)
- EPL x job search			0.003	0.003
			(0.002)	(0.003)
- EPL x unemployment			0.020	0.012
			(0.022)	(0.024)
σ^2(country)	0.371	0.170	0.391	0.181
	(0.628)	(0.234)	(1.713)	(0.580)
Log-likelihood	-16,846		-15,632	

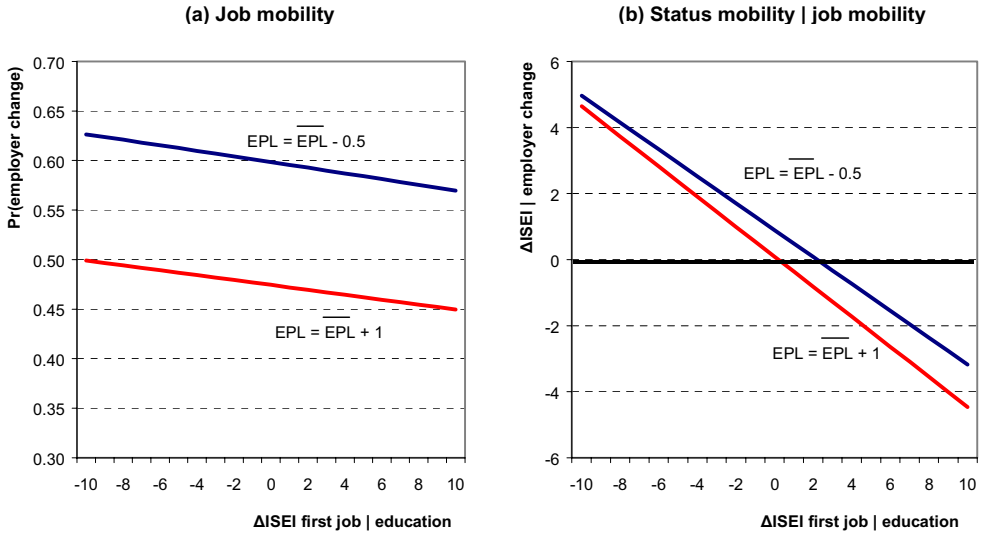
Notes: N=13.530; asymptotic standard errors in parentheses; statistical significance levels at ** p<.05, and * p<.10, respectively.

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work.

5.3 Marginal EPL effects

In discussing the empirical evidence, the fact that EPL effects on mobility appear quite substantive has been stressed at several points. To provide a more accessible illustration of the empirical magnitudes of EPL effects than inherent in logit coefficients, Figure 5 presents marginal EPL effect estimates on both job mobility rates and status mobility given employer change. Both panels represent the marginal EPL effects from a comparison between a context with an EPL index score of 0.5 points below the average and a second context with an EPL index score of 1 point above the average. In substantive terms, these simulations roughly represent the contrast between the Scandinavian countries (low EPL) and Southern Europe (high EPL). The marginal EPL effects are calculated at the mean of all other variables in the models, and are presented here by relative status attainment in the first job to allow assessment of EPL effects on compensatory mobility behaviour.

Figure 5: Marginal EPL effects on job mobility, by relative status achievement in the first job



Notes: based on model specifications (4) of Tables 1 and 2.

Panel (a) of Figure 5 refers to job mobility rates out of the first job by some four years after leaving education and training. Clearly, there are substantial direct EPL effects on the likelihood of having left one's first job by that time. Controlling for a set of core covariates and allowing for unmeasured heterogeneity between countries, higher EPL strictness in Southern Europe is estimated to lower job mobility rates by about 12 percentage points as compared to the Scandinavian-type labour market with more modest EPL regulations. Evidently, the association between relative status attainment and mobility is hardly affected

by EPL strictness in itself, yet against the background of average status gains through mobility, the reduction in overall mobility rates alone should reduce young peoples' upward status mobility. Panel (b) moreover illustrates the EPL effects on status mobility described above. Again, mobility is partly compensatory, so that relative underachievers in the first job tend to have more favourable subsequent mobility outcomes. Here, EPL strictness would seem to affect compensating aspects of mobility more directly. Evidently, EPL has relatively small effects on catching-up behaviour among those with relatively unfavourable status outcomes in the first job. However, EPL strictness does significantly affect status mobility outcomes in the middle and upper tails of the initial status distribution. In particular, low EPL strictness tends to lead to improved status mobility for those who already had favourable outcomes in the first job, and hence generate stronger patterns of cumulative advantage in the labour market. These cumulative effects are apparently limited by stricter EPL regulation.

6 Does mobility pay off? Employment protection and the structure of labour markets

EPL effects on mobility behaviour are but one aspect of an examination of labour market regulation and individual labour market outcomes. As previously argued, a more complete picture of EPL effects on youth labour market integration requires an assessment of potential EPL effects on the structure of (youth) labour markets over and above the EPL effects on career dynamics already discussed. The final section of this paper attempts to provide some evidence of such structural effects by presenting estimation results for some simple cross-sectional status attainment models. Table 4 shows the results of a series of straightforward linear mixed models of occupational status in the full cross-sectional sample, i.e. describing the structure of status outcomes for young people who entered European labour markets in the 1990s. In the following, I discuss the results for status outcomes in individuals' first significant and current jobs. For both dependent variables, I present results from two different model specifications, one including an EPL main effect only, and a more involved specification that includes interaction terms between EPL and other covariates (i.e. specifications equivalent to models (3) and (4) in the earlier analyses).

These estimates yield results similar to those of the dynamic analyses. Occupational status outcomes clearly rise with both increasing levels of education and increasing time in the labour force. Controlling for other factors, young women tend to have more favourable status outcomes than young men, while longer initial job searchs tend to have negative consequences for status outcomes. Moreover, there are strong negative effects of unfavourable macroeconomic conditions on status attainment, with high unemployment rates significantly

lowering status outcomes for market entrants.[5] When examining status attainment in current jobs, there is also evidence of significant lagged effects of macroeconomic conditions at labour market entry on later status outcomes. Still, the effect size for lagged macroeconomic conditions is only about one third of the effect of current conditions.

Table 4: EPL and occupational status among market entrants in 11 European countries, linear mixed model estimates

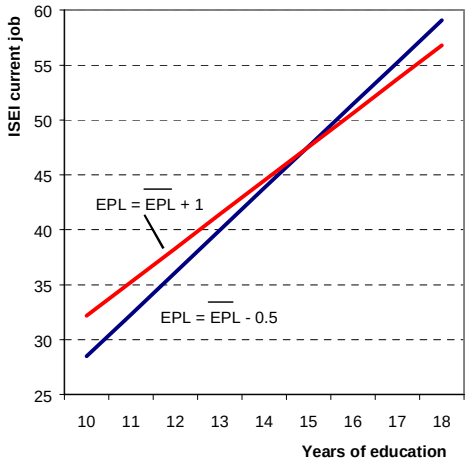
	First significant job		Current job	
	(1)	(2)	(1)	(2)
Intercept	-2.015*	-5.439**	-3.808	-7.326**
	(1.038)	(1.085)	(2.041)	(2.130)
Women	0.998**	1.106**	0.641**	0.735**
	(0.123)	(0.136)	(0.128)	(0.143)
Education	3.260**	3.482**	3.347**	3.358**
	(0.022)	(0.028)	(0.023)	(0.030)
Labour force experience	-	-	0.325**	0.330**
			(0.028)	(0.033)
Duration of job search	-0.004*	-0.004	-0.023**	-0.018**
	(0.002)	(0.003)	(0.003)	(0.004)
Unemployment rate at market entry	-0.206**	-0.191**	-0.071**	-0.065*
	(0.033)	(0.035)	(0.035)	(0.039)
Current unemployment rate	-	-	-0.261	-0.246
			(0.667)	(0.691)
EPL strictness index	0.800	7.670**	0.718	7.900**
	(1.181)	(1.309)	(1.815)	(1.969)
- EPL x women		-0.243		-0.216
		(0.181)		(0.194)
- EPL x education		-0.471**		-0.499**
		(0.037)		(0.040)
- EPL x experience		-		-0.022
				(0.047)
- EPL x job search		-0.017**		-0.010**
		(0.004)		(0.005)
- EPL x unemployment rate at market entry		-0.041		-0.018
		(0.044)		(0.049)
σ^2(country)	9.631*	9.938*	16.256	17.449
	(5.476)	(6.710)	(16.882)	(38.327)
Log-likelihood	-161,709	-161,634	-152,154	-152,085

Notes: N=40.173 (first job), N=37.637 (current job); asymptotic standard errors in parentheses; statistical significance levels at ** p<.05, and * p<.10, respectively.

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on Transitions from School to Work.

[5] In models of status attainment in first jobs, unemployment rates at market entry are the *current* unemployment rate at that time.

Figure 6: Marginal EPL effects on occupational status, by levels of education



Notes: based on model specification (4) of Table 4.

In terms of EPL effects, the baseline models for status attainment in both individuals' first and current jobs yield some evidence of a positive EPL main effect on status attainment (H2). The effect size of +0.7 to +0.8 ISEI score points per EPL index point is quite significant in substantive terms, yet in both cases the coefficient estimate does not pass standard statistical significance levels due to high standard error estimates. A second reason for this result is revealed by model specifications that include EPL interaction terms. For both dependent variables, there is consistent evidence of a negative interaction effect between EPL and education, which implies that positive EPL effects are most pronounced in the low-skill sector. Similar to Figure 5 above, Figure 6 illustrates the marginal EPL effects, contrasting Scandinavian-type low EPL strictness with a Southern European level of EPL strictness. The differences in slopes are readily apparent, and positive EPL effects on status attainment among the least qualified are immediately obvious. The models estimated here imply that leavers with less secondary education in more strictly protected labour markets attain jobs in occupations that, on average, score about three to four ISEI score points higher than those under low EPL strictness. This effect is far from trivial, representing a full 10% average status increase for the lowest qualified in more protected markets. This differential declines as the level of education increases, however, and finally vanishes at the post-secondary level. For university graduates, there is evidence of a negative EPL differential so that university graduates in highly protected labour markets tend to achieve somewhat lower average status outcomes than university graduates in more flexible labour market environments. This effect is consistent with the analyses of Section 5 because university graduates are most likely to benefit from cumulative advantage, which strict EPL has been shown to diminish. Before drawing firm conclusions, however, it might be

necessary to analyze richer functional forms of the interaction term in order to exclude the possibility that the present finding results from the imposed linearity restrictions.

7 Summary and conclusions

In examining the role of labour market regulation in job mobility behaviour, the current study attempts to complement the recent sociological literature on school-to-work transitions that has almost exclusively been interested in the structure of education and training systems as a key institutional determinant of youth labour market integration. The results obtained in the current paper complement those of earlier studies relating the specificity of training to the level of turbulence in early career stages in that they emphasize strict employment protection legislation as an alternative institutional factor that tends to reduce job mobility rates among young people entering the labour market. According to the estimation results, the difference in EPL strictness between a Southern European and a Scandinavian-type labour market on average implies a full 12 percentage point difference in the probability of having left the first job within roughly the first four years in the market – net of any other individual and country-level factors.

What may come as more surprising, however, is the evidence showing strict employment protection mainly reduces young peoples' upward mobility chances. This is a stark contrast to the direct EPL effect of stabilizing workers' current employment relationship, which implies a reduction in downward mobility risks associated with the incidence of unemployment. It has been argued here, however, that status attainment among young people in the early career stages is much more affected by indirect EPL effects on the dynamics of labour markets. Strict EPL reduces turnover levels in the total work force, therefore reducing the level of available vacancies on the market. As most of those vacancies would imply upward mobility chances for market entrants, the shortening of mobility chains achieved by strict EPL indirectly reduces the availability of (relatively attractive) job opportunities for school leavers. As a consequence, job mobility in more tightly regulated labour markets is associated with lower occupational status gains on average and flatter experience-status profiles.

One aspect of this flatter experience-status profile induced by strict EPL is the increased likelihood of trapping young people in unsatisfactory first jobs. Compensatory job mobility of relatively low achievers in the first job catching-up with average status attainment is an important aspect of mobility processes among those entering the labour market. Apparently, stricter EPL also leads to lower chances of subsequent upward mobility for those with below average occupational outcomes. Interestingly enough, EPL has more of an effect on job mobility than merely reducing catching-up. More specifically, strict EPL also tends to reduce the variance of status attainment by restricting cumulative advantages among young

people achieving relatively favourable outcomes in first jobs. In addition to a lower probability of job change in more strictly regulated markets, those with relatively favourable initial outcomes have been found to experience less favourable subsequent status mobility in more regulated labour markets. The mechanisms behind this finding certainly need to be examined in more detail, yet the evidence seems to be consistent with the idea that part of the advantage for high achievers might be that higher-status jobs tend to generate cumulative advantages through higher levels of networking or a wider applicability of job skills. If these advantages can only be reaped through job mobility, low opportunity levels induced by EPL would be effective in dampening the operation of cumulative advantages.

Finally, these dynamic effects of employment protection must be viewed in conjunction with EPL effects on the structure of youth labour markets. Here the empirical analysis provides clear evidence in favour of standard economic theory; the marginal rise of fixed labour costs associated with strict EPL indeed tends to put a floor on job structures in more highly regulated markets. In general, the job structure is shifted upwards in more regulated markets, especially in the low-skilled labour market. At the level of lower secondary education, the current paper estimates that school leavers in more strongly regulated Southern European countries achieve a 10% higher occupational status level, on average, than those under regulation levels common in Scandinavian labour markets. For low-skilled leavers, total EPL effects on status attainment tend to be positive; positive EPL effects on job structure far outweigh negative EPL effects on upward mobility because job shopping typically does not compensate low-skilled leavers for initial failures to achieve relatively adequate job matches. By crowding out low-skill jobs in the youth labour market, strict EPL also tends to reduce the necessity of compensatory mobility in general, given that job levels in first jobs tend to be more favourable in more strictly regulated labour markets. However, there is some evidence that EPL effects are different for high-skilled leavers. At the top end of the skill distribution, EPL may even lead to slightly lower levels of occupational attainment, particularly because job histories among highly qualified leavers depend more strongly on job mobility and resulting cumulative advantages that are subdued by low turnover levels in more strictly regulated labour markets.

In summary, the analyses yield a fairly positive assessment of the role of employment protection legislation for youth labour market integration, particularly for low-skilled leavers. On the other hand, the current analyses do not address potential EPL effects on youth unemployment. If strict EPL indeed tends to crowd out low-skill, marginal employment, high unemployment rates among the least qualified leavers may actually be the flip side of the relatively favourable status attainment effects emphasized here. A thorough empirical analysis of this relationship is certainly required because its outcome may strike a less favourable balance in assessing the total effects of EPL on school-to-work transitions. Against the background of existing cross-national research on the impact of education and training systems that the current analyses intended to complement, it is also

necessary to systematically address the relative explanatory power of training versus labour market institutions. Unfortunately, this test could not be run in the present paper due to the absence of data from countries operating strong vocational training systems and apprenticeship systems. Still, the estimates obtained in this paper indicate that cross-national differences in EPL strictness might account for about one third of the cross-national variance in mobility rates, and more than half the cross-national variance in status mobility among the 11 European countries in the sample. If these results stand the test of extended analyses that incorporate the structure of training systems, researchers examining school-to-work transitions would be well advised to more seriously consider the effects of labour market regulation among the set of institutional predictors.

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Ethnic Inequalities at Labour Market Entry in Belgium and Spain

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Abstract

Though the labour market integration of immigrant youth has received increasing attention in recent years, the lack of relevant data has limited the number of comparative studies and the theoretical reasons for the persistence of ethnic disadvantages remain unclear. In this paper, we try to enhance the understanding of ethnic inequalities, making use of the European Union Labour Force Survey 2000 ad hoc module on school-to-work transitions. Using longitudinal information on labour market entry and event history techniques, we try to disentangle several mechanisms leading to ethnic disadvantages and to compare their empirical relevance in Belgium and Spain. Most importantly, we show that non-EU youth are disadvantaged with respect to high-status jobs in both countries. In Belgium, this is mainly due to inferior educational qualifications and labour market discrimination, while in Spain, in addition to labour market discrimination, a notable self-selection process seems to take place. In addition to this central finding, the paper contains detailed analyses on access to medium- and low-status jobs as well as on general transition patterns from school to work in both countries.

Table of Contents

1 Introduction

Immigrants and their descendants constitute a substantial proportion of the population in nearly all European Union countries. Occupational attainment is a key factor in their integration into a host society. Therefore, the success of immigrants in the labour market is one of the most important topics of political and public discussions and one of the highest priorities for scientific research. Although great strides have been made toward understanding immigrant structural assimilation in several countries, the current state of this research is far from satisfactory. Comparative quantitative studies have been scarce until recently. Also, the basic theoretical mechanisms accounting for ethnic inequalities in the labour market remain unclear, although many of the existing analyses are valuable from a descriptive point of view.

For the most part, both of these limitations are due to a lack of appropriate data. To study ethnic inequalities in labour markets, large unbiased samples from the immigrant population are necessary. Therefore, data sets from the official statistical sources are well suited to this research because they usually contain detailed information on immigrant performance in the labour market. However, it is often questionable whether the information gathered in different countries is really comparable. Furthermore, these data sets usually do not contain information on variables that are relevant to a theoretical understanding of the labour market situation of ethnic minorities, such as social origin or host country-specific skills and knowledge.

In this paper, we try to enhance the understanding of ethnic inequalities in the labour market by making use of the European Union Labour Force Survey 2000 ad hoc module on school-to-work transitions. This dataset provides a core set of substantively important variables on school-to-work transitions and is linked to the general EU LFS, which is valuable for its large sample sizes and standardized survey design. The module is unique in that it contains measures for social origin and a longitudinal perspective on an individual's labour market entry by offering measures of the incidence and duration of job search and duration and occupation of the first job. Together, these measures allow for the assessment of processes and labour market dynamics at the early career stages. The focus on young immigrants (aged 15-35) during the initial years of their employment careers, and particularly on the timing of their first significant jobs, provides both direct and indirect tests of important mechanisms of ethnic inequalities which are not possible with other data sets. In addition, the data allow a comparative analysis of ethnic inequalities in two countries with different immigration contexts, Belgium and Spain.

In Section 2, we briefly describe past research on country-specific school-to-work transitions and processes of immigrant integration. General theoretical mechanisms which may account for ethnic inequalities in the labour market are further discussed. Then, data, methods and

variables are described in detail (Section 3). The next section (4) provides results of the event history analysis of the entry into the first significant job in Belgium and Spain. Major findings are summarized and discussed in Section 5.

2 Theory and past research

2.1 School-to-work transitions and ethnic inequalities in Belgium and Spain

School-to-work transitions: institutional settings

It has been determined (Allmendiger, 1989; Mueller and Shavit, 1998; Hannan et al., 1999) that institutional settings, and particularly educational and training systems and their link to labour market entry, greatly influence individual transitions from education to a working life. Both Belgium and Spain were classified as countries with school-based training in recent OECD publications (Clasquin et al., 1998; OECD, 1998). Due to the rapid expansion of the Spanish university system (Iannelli and Soro-Bonmati, 2000; Köhler, 1999), the proportion of young people with tertiary education in Spain has increased to reach a level similar to Belgium's. Nevertheless, Spain still has a higher proportion of less-educated youth than Belgium (OECD, 1999). The relatively loose link between education and work in both countries is manifested in high unemployment rates among young school graduates. According to the OECD (1998), in 1996, 30 per cent of Belgian youth were unemployed one year after leaving education, while almost half of Spanish youth were unemployed, with women and the less-educated being particularly disadvantaged (see also Planas, 1999). Furthermore, unlike in other European countries where education protects against unemployment, in Spain and in the rest of Southern Europe the relative advantage of education is far lower. Reyneri (2001) claims that many of the Spanish jobless are educated youth, who have high professional and social aspirations and are able to wait in order to enter highly qualified and rewarding jobs.

Belgium: Persistence of ethnic inequalities

Like other Western European countries, Belgium imported foreign labour from the Mediterranean countries, primarily Italy, Turkey and Morocco, to meet the demands of a booming economy until the early 1970s. Since the oil crisis, the entry of third-country nationals has been limited to family members of those already settled in the country, asylum seekers and refugees. Belgium, which hosts a number of EU institutions and other international organisations' headquarters, attracts EU other Western immigrants, who tend

to be highly educated and qualified. However, the integration of Turkish, Moroccan and, to certain degree, Italian immigrants and their offspring causes concern because these communities have the highest rates of unemployment, in addition to over-representation in unskilled manual work, and the greatest educational disadvantage and residential segregation (Phalet, 2002; SOPEMI, 2000; Cruz, 1999; Ouali and Rea, 1999).

Ouali and Rea (1999), summarizing previous research, discuss the differences between indigenous populations and ethnic minorities in their access to jobs. The dominant pattern among Belgians and EU foreigners is rapid integration and stabilization in conventional employment, i.e., they receive long-term contracts shortly after leaving education, while young people of non-EU origin, as a rule, face long-term unemployment. For ethnic minorities, the main problem is not entry into a stable employment career but rather finding a first job. This situation is extremely worrisome for a large majority of young ethnic minority women, who often need up to two years to find their first jobs after leaving education. According to Neels (2000), Moroccan and Turkish school leavers are often forced into blue-collar occupations after leaving school, despite being qualified for white-collar employment in clerical and service jobs.

Ouali and Rea (1999) offer a three-fold explanation for the persistence of ethnic inequalities in Belgium. One reason is the reproduction of the parents' socio-economic positions by the second-generation Moroccan and Turkish immigrants. As a result, a new underclass emerges. The authors' (*ibid.*) second claim is that a marked change of professional status from manual, usually held by the first generation immigrants, to non-manual, more common for their children, is often caused by industrial reorganization. This does not necessarily mean an improvement in the social position of the second-generation immigrants, since the latter are still over-represented in the low-skilled jobs within the service sector. A third explanation is the ethnic stratification and duality of the labour market, where immigrants are pushed to its lower segments (Piore, 1971, 1979; Massey et al., 1993). Finally, difficulties in immigrant structural assimilation can be attributed to the 'hierarchisation' of the occupational inclusion and discrimination on the basis of ethnic origin, with EU member state nationals being preferred over stigmatised 'Muslim' foreigners, especially Moroccans. Neels and Stoop (2000) indicate that even in cases of equal qualifications, the occupational outcomes of Moroccan and Turkish young people fall short of their Belgian counterparts. Areijn et al. (1998) documented instances of discrimination against ethnic minority youth, particularly Moroccans, when applying for clerical or retail trade jobs, especially when these involved contact with clientele.

Spain: New immigrant-accepting country, old problems of immigrant integration

Immigration is a new phenomenon in Spain, which until recently had been considered purely a source of emigration to the more developed Western and Northern European

countries. King and Rybaczuk (1993) attribute the attractiveness of Spain as an immigrant destination to the recent economic restructuring that has created numerous niches for which 'marginal' forms of inexpensive and flexible labour, including immigrants, are ideally suited.

Cachón (1999) distinguishes between three groups of immigrants to Spain: (1) highly qualified experts and technicians from EU and other developed countries (settled immigrants), (2) workers with low qualifications from other countries (precarious immigrants), and (3) illegal workers. Settled immigrants, who include, in addition to EU nationals, immigrants from other industrial countries and Latin America[1], managed to achieve a considerable degree of integration into the Spanish society through a stable position in the labour market which is often superior to that of the national population. The rest of the immigrants coming to Spain are classified as precarious and illegal immigrants, the latter living in Spain without legal residence status. They tend to fill mostly poorly paid or socially undesirable jobs in the service sector, i.e., hotel work, catering, retailing, domestic service, seasonal agriculture work, construction, and manufacturing work in textiles, garment-making, metalworking and leather tanning (SOPEMI, 2000; Cachón, 1999; Actis et al., 1999; Reyneri, 2001).

Despite large-scale unemployment, the number of poorly educated youth out of work is relatively low. According to Reyneri (2001), the serious mismatch between the demand for low-skilled, poor-status jobs and the supply of well-educated, ambitious local workers, plus the segmentation of the local labour market, explains why employers seek foreign workers despite the widespread availability of young educated jobless at home. Generally, migrants and Spanish youth look for different types of jobs, the former being in competition only with marginal sections of the national labour force (young dropouts, uneducated women, elderly people).

Starting in the late 1980s, Morocco became a significant source of labour migration to Spain[2]. Moroccan immigrants, who are often precarious and even more often illegal workers, rank at the very bottom of the ladder of potential workers for Spanish employers. They rank below Asians and Eastern Europeans, who rank below Latin Americans and Black Africans, who follow the most privileged group, EU citizens. Discrimination tests conducted by de Prada et al. (1996) discovered that young, semi-skilled male Moroccans experienced differential treatment when looking for jobs, compared to a similar group of

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[1] Immigrants from Hispanic America, the Philippines, Equatorial Guinea and Andorra are eligible to apply for naturalisation after 2 years of residence in Spain, while the waiting period for other immigrants is 10 years.

[2] In the late 1980s, the French authorities began to require visas from Maghreb foreigners, which resulted in a switch from France to Spain as a destination country for Moroccans.

young male Spanish nationals. Even when jobs are acquired, Moroccans are over-represented in the secondary economy and in low-grade employment, a fact that King and Rybaczuk (1993) attribute to a lack of fluency in Spanish and poor educational background.

Immigrant integration measures are extremely scarce in Spain. De Prada et al. (1996) admit that existing vocational training courses specifically targeting immigrants are rare. Furthermore, residence/work permits which are only valid for short periods of time do not promote rapid integration of precarious immigrants into the host country.

Comparative discussion

Spain and Belgium present an interesting case for a comparative study of young immigrants' early careers and immigrant labour market inclusion in general. First, the two countries differ in their immigration contexts. While temporary labour migration dominates in Spain, in Belgium it is no longer the case for third-country immigrants, who are able to secure residence permits (including permanent) only in cases of family reunification or on humanitarian (refugees, asylum seekers) grounds. Moreover, in Belgium, problems with labour market integration of the second-generation immigrants have become salient, as more children of guest workers from 1960-1970s enter the labour market.

Differences in the labour market structure may be responsible for the variance in early career opportunities for young immigrant and native-born school leavers in the two countries. Demand for low-skill jobs in the secondary labour market is met by the supply of non-EU, and especially Moroccan immigrants, who are ready to accept any type of job in Spain. In Belgium, which has undergone substantial downsizing of the primary and secondary economic sectors, young immigrant school leavers are expected to enter the tertiary labour market where they may encounter discrimination when competing with the indigenous youth.

Diversity in the sending countries and immigration contexts results in country-specific hierarchies of the ethno-national groups. EU and other industrialized Western countries' nationals are treated preferentially in both societies. However, EU nationals from the Southern European countries, particularly Italy, who arrived as guest workers during the 1960s and their children might experience more difficulties at labour market entry in Belgium. On average, non-EU nationals and immigrants are expected to have quicker entry into employment in Spain, as a large percentage of those are privileged newcomers from Spanish-speaking Latin America. Finally, these two countries have experienced an inflow of immigrants from the same sending country, Morocco. Moroccan immigrants who occupy the lowest rank in the ethnical hierarchy in both societies and are expected to be disadvantaged at labour market entry in both societies.

2.2 Explaining ethnic inequalities in the transition from school to work: discrimination, country-specific information, and self-selection

In this section, some general mechanisms which may account for ethnic inequalities at labour market entry, particularly the longer job searches experienced by ethnic minorities as compared to the indigenous populations, are reviewed. The underlying process of the job search can be understood as the problem of matching (the requirements of) jobs to (the characteristics of) individuals. Two types of actors are involved in this process – possible employers and the school leavers themselves – who are both looking for a solution which is optimal from their point of view.

Basic economics holds that the aim of the employer is to find the applicant with the highest productivity or *human capital* given the search activities of the firm and given the characteristics (including the wage) of a certain vacancy. In the literature there are at least three prominent arguments which may account for ethnic disadvantages in this respect. First, in-migration may be highly selective with respect to human capital, either positively or negatively (e.g., Borjas, 1987). Second, some aspects of human capital (e.g., language skills) are country-specific, i.e., they are more productive in some societal contexts than in others. Therefore, the act of migration leads to a certain devaluation of human capital (Chiswick, 1978, 1991; Friedberg, 2000). Third, immigrants often consider their stay in the host country as only temporary (Bonacich, 1972). Therefore, they may be more reluctant to invest in human capital that is specific to the host country. As all three of these arguments refer directly to the migration experience, they hold true for the first generation of immigrants. However, there are multiple ways in which different forms of capital – either physical or social inheritance – are transmitted from generation to generation (Bourdieu 1977). Moreover, students of social mobility (e.g., Erikson and Goldthorpe, 1992; Müller et al., 1989) claim that the impact of *social origin* on educational and occupational attainment is very strong in most European countries and thus one would also expect that human capital disadvantages of the first generation immigrants are partly transmitted to the second generation through similar mechanisms.

On the other hand, employers may treat members of ethnic groups differently, even if the amount of their human capital is controlled for. In other words, ethnic minorities may face some form of overt or hidden *discrimination* in the labour market. How can this be explained? The neo-classical approach clearly predicts that discrimination will not exist in perfect markets. This implies that market failure is a necessary condition for discriminatory behaviour to exist and several prominent theories fall under this general idea. First, theories of monopsonistic discrimination start from the assumption that there is a lack of competition on the demand side for labour (Madden, 1973). This argument does not only hold true for monopsonies in a narrow sense, but also if cartels or mobility barriers for labour exist. An alternative is the statistical discrimination approach, which assumes that

employers do not have complete information on the productivity of workers and impute some group information instead (Phelps, 1972; Arrow, 1972; Aigner and Cain, 1977; England, 1992: 56ff). It is worth noting that statistical discrimination will only predict individual discrimination but not discrimination of a group on average. Therefore, a related but distinct mechanism should be distinguished, namely 'error discrimination'. Here it is assumed that, due to a lack of complete information, false beliefs (rather than statistical approximations) are imputed about the 'true' productivity of workers (e.g. England, 1992: 60). Finally, in his seminal work on 'the economics of discrimination' Becker (1971) introduces the notion of personal preferences or, in his words, 'tastes for discrimination'. He shows that such tastes – on the part of employers, employees or customers – will result in effective market discrimination. It has been argued that tastes for discrimination (like 'false beliefs' in the case of error discrimination) will not exist over time in markets that are otherwise competitive (e.g. Arrow, 1972: 192; Arrow, 1998). Recently, however, some models have suggested that tastes could be stable over time if search costs in the labour market are severe (Black, 1995; Borjas and Bronars, 1989).

For the school leaver or job seeker, there are two central factors influencing the speed of the matching process: search efficiency and search intensity. Explaining ethnic inequalities requires determining why these factors may differ for immigrants and the indigenous population. With respect to search efficiency, it is reasonable to assume that country-*specific information* about the labour market plays an important role in finding matching vacancies. As such information is based on knowledge and social capital specific to the host society, we would expect immigrants and their descendants to be disadvantaged in this respect. However, assuming diminishing marginal returns to additional information, we would also expect that these ethnic disadvantages decrease over time, i.e., the longer the duration of the search, the narrower the information gap between indigenous youth and young immigrants.

While search efficiency refers to the 'objective' probability of finding a matching vacancy given the search activities of an employee, this may differ by ethnicity. In economic search theory (e.g. Stigler, 1961; McCall, 1970; Devine and Kiefer, 1991), a search for further vacancies is assumed to entail costs on the one hand, and uncertainty about whether the search will be successful on the other hand. Therefore, employees stop searching as soon as the utility (wage) of a given alternative exceeds a certain threshold (reservation wage). A simple representation of these ideas can be seen in the following model. The expected utility of a potential job alternative is denoted by U_A and the utility of the status quo is denoted by U_{SQ}. If the search for the job alternative includes costs C and the subjective probability of finding such an alternative is denoted by p, then the utility of the search can be expressed as:

$U_{search} = pU_A + (1-p)U_{SQ} - C,$

while the utility of stopping further search is:

$U_{\neg search} = U_{SQ}.$

In a sequential model, the search is continued as long as $U_{search} > U_{\neg search}$ which for $p \neq 0$ is equivalent to

$U_{SQ} < U_A - C/p. \qquad (*)$

The term $U_A - C/p$ may be interpreted as the threshold or 'reservation wage', i.e., it resembles the utility level of the status quo which is sufficient for the job seeker to stop further activities. The lower the expected gains from potential alternatives, the higher the search costs and the lower the subjective expected probability of finding such an alternative, the sooner the job search process is stopped.

In this model, two assumptions can be made with respect to the search behaviour of immigrants. First, it is reasonable to assume that ethnic minorities have higher search costs C, as they may lack country-specific knowledge and specific social capital with respect to the labour market of the host society. Second, minorities may fear discrimination in the labour market (even if it does not actually exist), resulting in a lower subjective probability p of being successful in finding an alternative. Holding U_A constant, both arguments lead to a decrease of the reservation wage, therefore resulting in shorter search durations and lower job levels for non-indigenous job seekers. This mechanism thus can be understood as leading to a sort of *'self-selection'* on the side of immigrants with respect to higher-level jobs.

3 Data and methodology

To explore early career developments of immigrant job entrants in the two countries, the study utilises longitudinal information on the first significant job available in the EU LFS 2000 ad hoc module on school-to-work transitions. Both Spain and Belgium successfully implemented the ad hoc module (see Iannelli, 2002). In Belgium, the actual sample size of the target population, i.e., young people who left education during the previous ten years, is 2930 individuals, while in Spain, it is 14909 young people. There are some slight differences in the age range of the target group, which do not seem to impede comparability or significantly distort the results of the study. In Spain, the target population includes 16-35 years old, while in Belgium the target group are those of 15-34 years old.

In the EU LFS ad hoc module, a first significant job is defined as non-marginal employment of at least 20 hours per week that has lasted at least six months and started after leaving continuous education. It is worth noting that such a strict definition of first significant jobs might ignore labour market integration of school leavers who had a succession of temporary

contracts with different employers, typical of the Spanish youth labour market which is known for its high flexibility and precariousness. In addition, Belgium, strictly following Eurostat's definition of first significant job, excluded all jobs that started before leaving continuous education, while Spain considered first jobs as significant employment even if they started before leaving education, but otherwise met the Eurostat criteria.

The transition from education to first significant occupation is approached from the event history perspective, i.e., we analyse the hazard rates of obtaining a first significant job since leaving education. The hazard rate or 'risk' *r(t)* is defined by (e.g. Blossfeld and Rohwer, 1995: 28):

$$r(t) = \lim_{t^* \to t} \frac{\Pr(t \leq T < t^* \mid T \geq t)}{t^* - t},$$

i.e., it is the limit (as t^* approaches t) of the conditional probability that the event occurs (at time T) between time points t and t^*, given that it has not occurred until t, divided by the length of the interval between t^* and t. In this case, the event is defined by obtaining a first significant job and the process starts at the time of leaving the educational system for the first time ($t=0$).

In these analyses, the *starting time* of an episode is determined by the time of leaving education. If a person immigrated x month after leaving education s/he enters the risk set at time x, which leads to a conditional likelihood approach (Guo, 1993). An *event* occurs if an individual enters the first significant job, and in this case, time of entering defines the *ending time* of an episode. Hence the duration of the search, measured in months, equals the period between leaving continuous education and starting first significant job. Cases when immigrants experienced their first significant jobs outside the host country (5.9% in Belgium and 5.3% in Spain) were deleted from the analysis. Those individuals (episodes), who did not enter their first significant jobs before the time of interview, are considered *right censored*. Here, the duration of the job search equals time since leaving continuous education for the first time. Excluded from the analysis were 1.1 per cent of the Belgium cases with negative duration of more than 12 months[3] between leaving education and starting the first significant job.

A major problem in the Spanish ad hoc module, relevant to the current study, is the relatively large number of missing values (up to 26 per cent) on the month of an event, either when leaving education or when starting the first significant job, as this information was optional for the events that occurred before 1997. In Belgium only 6 per cent of the sample had missing information. For both countries, the missing month of leaving education

[3] Because of the imputations, negative durations of less than 12 months were considered immediate entry to the first significant job.

was substituted by month 'June' if the information on year of the event was present. To minimize mistakes in the calculation of the duration variables, similar imputations were adopted for the missing month of starting first significant job.

We estimate *multiple destinations models*, which in this case means that one origin state (not yet having a first significant job) and three possible destination states are distinguished. Individuals may move into one of three types of jobs: professional, technical, or managerial (PTM) jobs, clerical or service (CS) occupations, or blue-collar[4] (BC) jobs.

We run piecewise constant exponential models (see Blossfeld and Rohwer, 1995: 110-119) to approximate the shape of the hazard functions and to estimate the impact of independent variables. In a multiple destination model the piecewise constant exponential model for transition to destination k is given by:

$$r^k(t) = \exp(a^k_l + a^k_1 x_1 + \ldots + a^k_m x_m), \quad \text{for } t \in [\tau_l, \tau_{l+1}[\text{ with } 0 = \tau_1 < \tau_2 < \ldots < \tau_L < \tau_{L+1} = \infty.$$

That means that in this model, the time axis is divided into L intervals and an interval-specific constant a^k_l is estimated for each interval $[\tau_l, \tau_{l+1}[$ $(l = 1,\ldots,L)$ and each possible destination k. In addition, destination-specific but time-independent parameters $a^k_1, \ldots, a^k_m$ are estimated for all covariates $x_1,\ldots,x_m$. The independent variables of our analyses are summarized in Table 1.

4 Results

4.1 Socio-demographic characteristics of the target group in Belgium and Spain

The presence of immigrant and ethnic minority youth is more pronounced in Belgium than in Spain, which only recently became an immigrant country. This is evident from Table 2, which presents a descriptive overview of the socio-demographic characteristics of young people belonging to different immigrant groups who left continuous education in the past decade and the occupational characteristics of their first jobs in Belgium and Spain. Four immigrant groups are distinguished in each country: indigenous, i.e., national native-born youth; EU nationals, i.e., people born in the EU or other Western industrial countries or those possessing nationality of one of the EU or Western industrial countries; other non-EU nationals; and Moroccans as a separate group.

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[4] Blue-collar jobs include skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators and assemblers, and unskilled workers. The relatively small number of cases of blue-collar jobs for the immigrants groups in both countries does not allow for a further break-down into less heterogeneous groups, such as skilled and unskilled labourers.

Table 1: Description of the independent variables in the multivariate analysis

Independent Variable	Description
Immigrant group[5]	*A group of dummy coded variables:* Indigenous (native-born national) – reference category EU and other industrialized Western countries' nationals or immigrants born in EU or other Western countries (latter including: other Western European countries, the USA, Canada, Australia and Japan). This group is henceforth called EU nationals Non-EU nationals or immigrants born in other non-EU countries (descriptive analyses also distinguishes a group of Moroccans in both countries)
Age at leaving education	Age minus time since leaving education (in years)
Gender	Men (reference category), women
Level of education when leaving school for the first time	*A group of dummy coded variables:* Low – ISCED 1-2 – reference category Medium – ISCED 3-4 High – ISCED 5-6
Parental highest level of education	*A group of dummy coded variables:* Low – ISCED 1-2 – reference category Medium – ISCED 3-4 High – ISCED 5-6
Education received not in the host country	1: Immigrant arrived after leaving continuous education for the first time 0: Indigenous youth, EU nationals and non-EU nationals born or immigrated before leaving continuous education in the host country – a reference category
Missing years since migration (Spain only)	1: Immigrant, but information on time of immigration is missing 0: else
Waiting time in home country for immigrants	Equals the time until immigration (years) after leaving continuous education if education not received in the host country
Waiting time for EU immigrants (time-varying)[6]	Equals the time after leaving education (round years) for EU-immigrants Equals 0 for indigenous populations and non-EU immigrants.
Waiting time for non-EU immigrants (time-varying)	Equals the time after leaving education (round years) for non-EU-immigrants Equals 0 for indigenous populations and EU immigrants.

[5] Unfortunately the EU LFS data does not allow identifying second-generation immigrants who possess the nationality of a host country thus excluding this group extremely important for the analysis of persistence of ethnic inequalities in the immigrant-receiving countries. This might be a greater problem for Belgium than Spain, since the latter has only recently experienced immigration inflow. In addition, the LFS data might underestimate the proportion of illegal immigrants in both countries, which is probably a more serious problem in the Spanish data since it experiences a more substantial inflow of illegal immigrants seeking jobs in the informal sector of the Spanish economy.

[6] This and the following quantitative time-varying variables are built by splitting time axes into episodes of 12 months each (Blossfeld and Rohwer, 1995: 139-143).

In both countries, immigrants and second-generation youth from Morocco make up a demographically distinctive group. Though slightly younger than the rest of the target group, a larger proportion of Moroccans are married and have children in both countries. It is interesting to note the gender imbalance among immigrant youth in Belgium, where the majority of EU nationals are women and the majority of non-EU nationals are men.

As previously discussed, immigration is a relatively recent phenomenon in Spain, where the majority of immigrants arrived in the last decade with a negligible proportion of second-generation immigrants. In contrast, almost half of the target group arrived more than 10 years ago, with about one fifth of all ethnic minority youth born in Belgium. The proportion of naturalized non-EU youth is quite similar and rather low in both countries. In Spain, Spanish nationals dominate immigrant inflow from EU countries, which might be explained as the return migration of Spanish emigrants and their offspring.

In Belgium, young people tend to leave education later than in Spain. In both countries, differences between immigrant groups in age at leaving education are evident. In Belgium, EU nationals stay in school longer, while Moroccans leave education slightly earlier. In Spain, immigrants (with the exception of Moroccans) leave school later than indigenous Spaniards. Moroccans tend to leave education around 17 years of age, which is about 2 years earlier than native-born Spaniards and almost 3 years earlier than the rest of the immigrants in Spain. Almost an equal proportion of young people left education for the first time with the tertiary degree (about 43 per cent) in both countries. However, in Belgium a rather low proportion (15 per cent) of young people left school possessing only a secondary education, while the analogous number for Spanish young school leavers is much higher - about 35 per cent. The educational distribution of EU nationals is quite similar to that of indigenous youth in both countries, with a slightly greater proportion of higher educated people among the EU youth in Spain. Moroccan immigrants with secondary education constitute the majority of those settled in Spain, while in Belgium the percentage of Moroccans possessing secondary education is similar to the percentage of those with a tertiary education. At the same time, they tend to be under-represented among the tertiary-educated in both countries (16-17 per cent). The educational level of other non-EU nationals in Spain is similar to that of EU nationals, i.e., about half of all young people are highly educated and about a third have post-secondary diplomas. In Belgium, equal proportions of immigrants from other non-EU countries left tertiary, post-secondary and secondary school.

Turning to the social background of the target group, which is measured as the highest level of parental education, we find similarities between the indigenous population and youth from the EU member states in Belgium. In Spain, parents of immigrants from EU countries tend to educationally outperform parents of the indigenous youth. In both countries, the vast majority of young Moroccans' parents have only a secondary education. The social

background of other non-EU immigrants seems to be comparable to that of indigenous populations in both countries, with a relatively (compared to native-born youth) higher proportion of less-educated parents among Belgian youth immigrants.

From Table 2, which includes information on the first significant jobs of young people, it is evident that socio-economic status of the first significant jobs of the indigenous youth is the same as among EU nationals is Belgium. In Spain, however, EU nationals managed to obtain better jobs than native-born nationals. Moroccans are greatly disadvantaged in the socio-economic status of their first significant jobs in both countries, the gap between Moroccans and indigenous youth being more pronounced in Spain. Despite more favourable educational backgrounds, young people from third countries in Spain seem to be more disadvantaged in their first significant jobs compared to the native-born youth. The lower part of Table 2 presents the distribution of respondents according to the occupations of their first significant jobs, which are grouped into the three broad categories discussed above. In Belgium, indigenous youth are over-represented in professional, technical and managerial jobs (PTM), the trend closely followed by EU nationals[7] and to some degree by other non-EU nationals. Similar patterns of occupational location are evident for indigenous Spaniards and other non-EU nationals; EU nationals in Spain are over-represented in the PTM jobs as compared to the native-born Spanish youth. Moroccan youth are clearly over-represented in blue-collar jobs in Belgium and even more so in Spain. In Belgium, almost equal proportions of the Moroccan youth find first jobs in PTM and service jobs, while in Spain virtually no Moroccans are found in the higher prestige PTM employment.

4.2 Patterns of entry into the first significant job in Belgium and Spain

We start the analysis of entry into the first significant job by looking at the hazard rates of the transition in Belgium and Spain. We approximate the shape of the hazard function using the piecewise constant exponential model without covariates defining eight discrete time periods.[8] The first one covers the first twelve months after leaving education (year 1), the second the next twelve months (year 2) and so on. Finally, the eighth period includes all possible months after the end of the seventh year. The model is implemented as a 'competing risk model', i.e., individuals may move to one of three possible destinations: a professional, technical or managerial (PTM) job, a clerical or service (CS) job, or a blue-collar (BC) job. The results of the estimates for Belgium and Spain are shown in Figure 1.

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[7] Compared to indigenous Belgians, immigrants from EU countires are more likely to hold clercal and service jobs and less likely to hold blue-collar jobs.

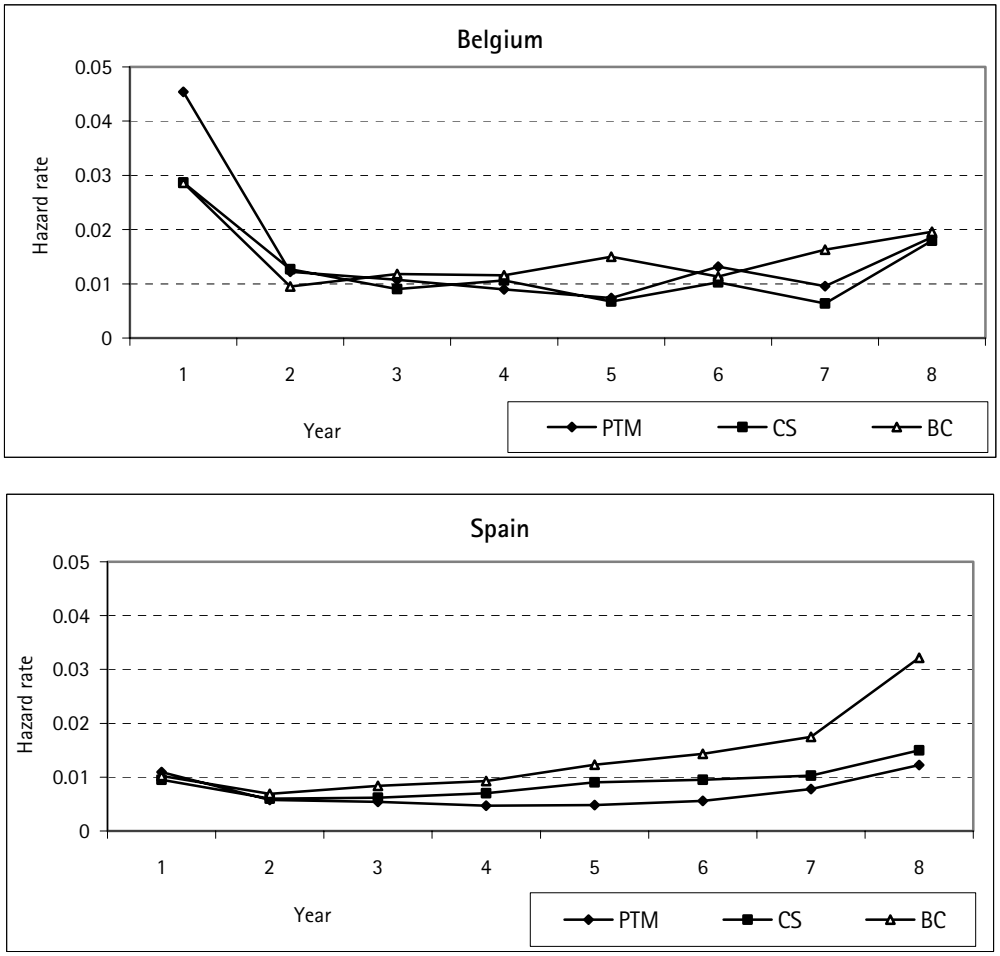
[8] An alternative is the life table method with the same intervals.

Table 2: Descriptive overview of young people who left continuous education in the recent 10 years in Belgium and Spain

	Belgium				Spain			
	Indigenous	EU nationals	Moroccans	Other non-EU	Indigenous	EU nationals	Moroccans	Other non-EU
Percent out of the total target group	87.5	4.1	2.0	6.4	97.0	1.1	0.6	1.4
Mean age	25.6	26.3	24.5	25.8	23.8	24.9	23.6	25.0
	(3.6)	(3.9)	(4.0)	(3.9)	(4.1)	(4.2)	(5.5)	(4.4)
Percent male	52.0	35.3	57.0	57.4	52.4	52.6	49.8	44.8
Percent married	31.0	31.5	46.9	36.2	11.8	21.9	42.7	36.4
Percent with children	29.7	35.3	52.3	38.2	23.3	25.1	68.9	27.2
Immigrants status								
Born in the country	100	22.9	14.3	26.6	100	9.5	.	1.8
Arrived less than 5 years ago		20.1	28.8	15.3		51.6	44.4	71.6
Arrived 5-10 years ago		10.5	11.6	13.3		32.3	37.5	22.5
Arrived more than 10 years ago		46.5	45.2	44.8		6.5	18.1	4.0
With citizenship of the host country	100	26.0	15.9	34.2	100	86.4	16.8	37.2
Mean age at leaving education	20.9	21.5	20.0	20.9	19.4	20.0	17.1	20.3
	(2.6)	(3.3)	(3.2)	(3.6)	(4.1)	(4.0)	(4.3)	(3.9)
Level of education when leaving it for the 1st time								
Percent with low education	15.0	12.8	37.8	30.0	35.3	30.3	64.4	23.0
Percent with medium education	42.3	40.6	45.5	39.1	21.7	21.9	20	29.7
Percent with high education	42.7	46.6	16.6	30.9	43	47.8	15.6	47.3
Highest level of parental education								
Percent with low education	43.3	44.1	97.7	57.0	80.1	69.2	90.0	70.9
Percent with medium education	30.3	28.7	1.4	15.9	9.6	17.3	3.1	13.9
Percent with high education	26.4	27.2	0.9	27.2	10.3	13.5	7.0	15.3
Mean ISEI of the first significant job	45.1	45.1	36.8	43.6	41.4	43.6	27.3	38.9
	(16.2)	(16.5)	(14.4)	(15.4)	(16.5)	(15.7)	(8.4)	(17.4)
First significant job (Percent in)								
Professional, technical, managerial	40.8	38.3	20.6	36.9	27.6	37.5	3.2	25.2
Clerical and services	28.5	38.0	24.3	32.4	31.6	33.1	30.6	36.6
Blue-collar jobs	30.7	23.7	55.1	30.7	40.8	29.4	66.2	38.2
Total number	2556	120	58	188	14269	164	60	202

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on school-to-work transitions

Figure 1: Time-dependent risks of entering first significant job after leaving education for the 1st time (results from a piecewise constant model without covariates)



Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on school-to-work transitions

The most obvious difference between Belgium and Spain is the risk of entering the first significant job in the first year after leaving education. In Spain, the rate estimate is rather low and nearly the same for all three types of jobs. It is considerably higher in Belgium, especially for PTM jobs. However, after the first year, the risk level drops in Belgium and remains only slightly higher than in Spain. After the second year, the risk increases over the course of time in both countries. In Spain, this is especially true for blue-collar jobs, while the tendency is barely perceptible for PTM jobs and CS jobs fall in between. In Belgium (presumably due the number of cases), the differences between job types are less clear-cut.

To study whether the transition patterns differ between ethnic groups, it is advisable to look at the survivor functions into which the hazard rates translate.[9] The survivor function is defined by

G(t) = Pr(T > t).

In our case *G(t)* it can be interpreted as the proportion of young people who did not find a first significant job at time *t* after leaving education. Again we distinguish among three possible job types (destination states) and estimate the survival functions for four immigrant groups using the Kaplan-Meier method (product-limit estimator). The results of the analyses are shown in Figure 2[10].

In general, a smoother entry into first employment is manifested in Belgium. Moroccans have a more difficult time entering their first significant jobs compared to indigenous youth, especially in PTM and service jobs. They are followed by other non-EU nationals, for whom it also takes significantly longer to find PTM employment compared to native-born Belgians. No significant differences[11] are found between indigenous youth and young people from the EU member states in their access to first employment, irrespective of its type. A certain ethno-national hierarchy, with Moroccans as the most disadvantaged, followed by other non-EU nationals, is evident at entry to PTM employment in Belgium. The ethnic hierarchy becomes less obvious when looking at entry into service and manual jobs.

A different pattern of entry into first jobs is seen in Spain. No significant difference exists between indigenous, EU and non-EU (with the exception of Moroccan) youth in the entry to PTM employment. Moreover, non-EU nationals (with the exception of Moroccans) tend to enter service occupations more quickly, while EU nationals and Moroccans do not significantly differ from native-born Spaniards with respect to entry into service jobs. EU nationals tend to have significantly slower entry into blue-collar jobs as compared to the indigenous youth. Moroccans are almost excluded from PTM employment and have slower entry, albeit statistically insignificant, to other types of jobs.

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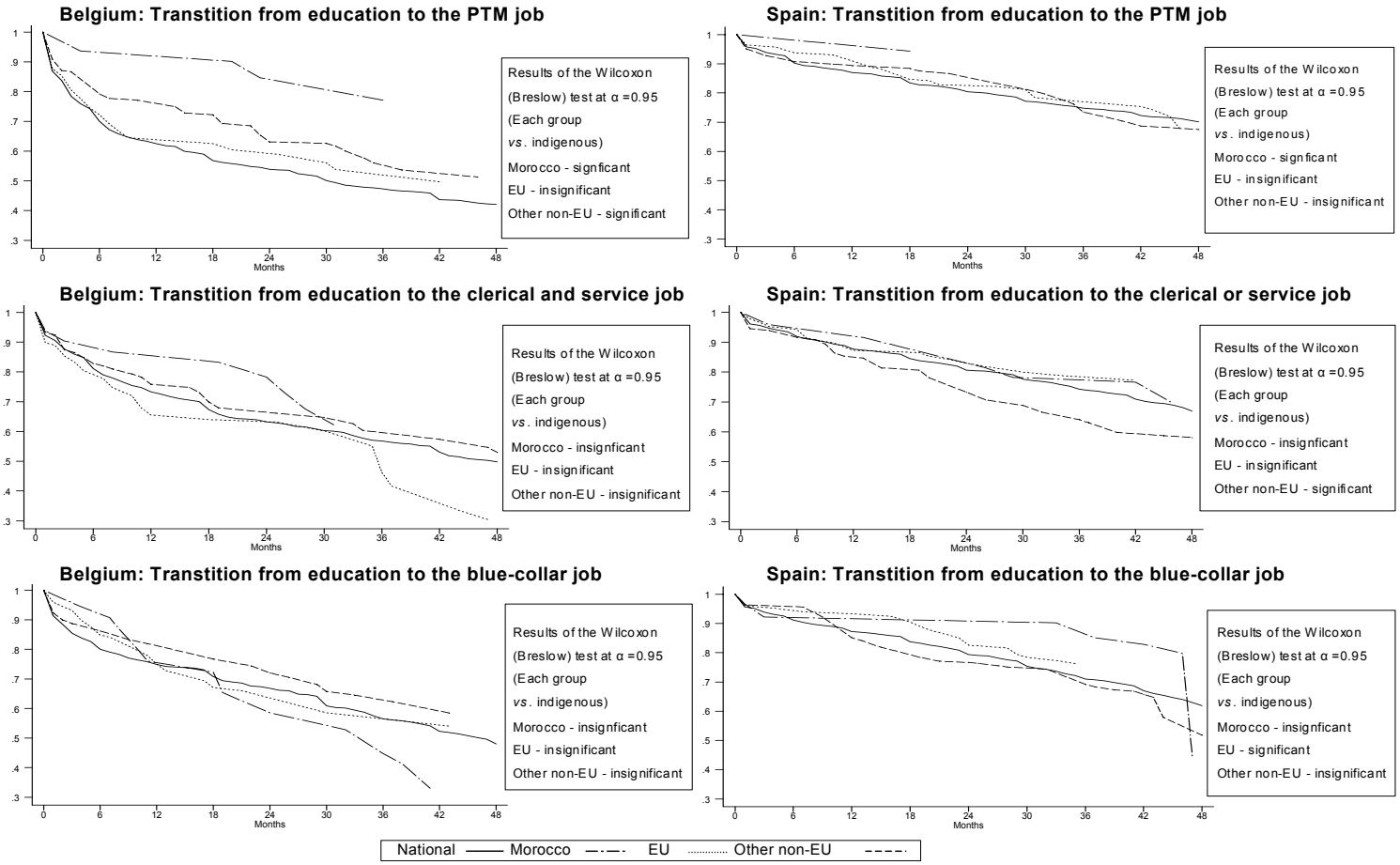
[9] The survivor function *G(t)* can be computed from the hazard function *r(t)* by $G(t) = \exp(-\int_0^t r(x)dx)$

[10] Survival functions illustrate first 4 years (48 months) after leaving education for the first time.

[11] To compare survival functions, we used Wilcoxon (Breslow) test, which is more sensitive to the differences of the survival functions at the beginning of the duration (Blossfeld and Rohwer, 1995).

Figure 2: Kaplan-Meier estimates of survival functions of entering job types



4.3 Disentangling the mechanisms

In the theoretical discussion, it was shown that ethnic differences in search durations might result from several distinct mechanisms: lack of human capital, effects of social origin, discrimination, country-specific information, and self-selection. We also argued that the absolute and relative weight of each mechanism would vary between countries because they are dependent on structural background conditions like migration history and institutional settings. In the following analyses we try to disentangle these mechanisms using multivariate event history models.

While *human capital* and *social origin* can be *directly* controlled, hypotheses on discrimination, country-specific information, and self-selection processes must be assessed indirectly, relying on implications of the mechanisms for the specific duration dependency of the process. First, *discrimination* in the labour market will, by definition, result in net effects of ethnicity on the risk of entering the first significant job controlling for educational qualification and social origin. As the driving force is the behaviour of employers, we assume that this effect is *independent of* the employees' *duration* of search. *Country-specific information* on the labour market of the host society is operationalized with a dummy variable for finishing education in the home country, and a variable for waiting time between leaving education and immigration (controlling for age of leaving education). However, possible gaps between indigenous youth and young immigrants are then expected to narrow over time assuming marginal returns to information. Therefore, for ethnic minorities, compared to the indigenous population, we expect a relative *increase* in the risk of finding a job over time if the information mechanism is at work. Finally, if the mechanism of *self-selection* is present, the reverse should be true – at least for higher status jobs. The relative risk for ethnic minorities should *decrease* over time as search activities are stopped earlier.

To test our competing hypotheses on the time dependency of the relative risk for immigrants, we include two time-varying variables in our models, a variable called 'EU × waiting time' (waiting time for EU immigrants) and 'non-EU × waiting time' (waiting time for non-EU immigrants). These variables equal waiting time (in round years) if an individual belongs to the EU or to the non-EU immigrant group and equal 0 otherwise. Thus the variable captures the time dependent change in relative risks for two immigrant groups compared to the indigenous youth given the underlying risk shape and given the time-independent relative effects of ethnicity (main effects). If the sign of the parameter for this variable is positive, the relative risk for (non-)EU youth compared to the reference group increases over time and if the parameter is negative the relative risk decreases over time.

The estimated parameters of different models are shown in Table 3 for Belgium and in Table 4 for Spain. As in the analyses above, we consider multiple destinations, i.e., PTM jobs,

clerical or service jobs and blue-collar jobs. With respect to the *higher status PTM jobs,* we find clear disadvantages for EU immigrants and non-EU immigrants[12] in Belgium when controlling only for gender and age at leaving education (model 1). In Spain, we also find clear disadvantages for the non-EU group, while EU immigrants do not differ significantly from the indigenous population. In model 2, we introduce a control for educational level and a dummy variable pertaining to the place of educational attainment. We find that in Belgium, education is, to a large degree, responsible for ethnic inequalities of non-EU youth. In Spain, the non-EU nationals' coefficient diminishes slightly but remains highly significant. In both countries, the effect for EU immigrants is only slightly affected when controlling for education. The fact that education has been finished in the home country has a negative, but insignificant, effect on the risk function in both countries. After controlling for parental education (model 3), the situation in Belgium remains essentially the same although this variable has a significant impact on the risk of obtaining a PTM job. In Spain, ethnic disadvantages increase slightly, net of parental education. Finally (model 4), controlling also for the length of waiting time in the home country, we include the interaction term of the EU group membership with waiting time and the interaction of non-EU group membership with waiting time to the model. In Belgium, the parameters for these variables are nearly zero, while in Spain there is a highly significant negative effect for the waiting time of the non-EU group. This points to the relevance of the self-selection mechanism with respect to PTM jobs in Spain. Note that the main effect for non-EU immigrants is only -0.78 in model 4 compared to -1.12 in model 3. This means that ethnic differences in the risk of obtaining a higher-level PTM job are less pronounced soon after leaving education, but become more severe with each additional year after leaving education.

Looking at the risk of obtaining a *clerical or service job (CS-job),* ethnicity effects are nearly absent in both countries. As one would expect, the risk of obtaining a clerical or service job is higher for women in both countries. Moreover, a medium level of education and a medium level of parental education increase the corresponding risk. Note that in Spain, the effects for the EU national group become positive (albeit not significantly) when introducing these controls. While the interactions of waiting time with ethnic groups have no effect on the hazard rate in Belgium, the waiting time for the non-EU group has a significant negative effect in Spain. An interesting finding is that finishing education in the home country and being a non-EU immigrant or national both have a positive effect on the risk function in model 4 for Spain. This means that soon after leaving education, non-EU youth seem to have better access to CS-jobs. However, this advantage vanishes with the passage of time after leaving education.

[12] Due to the small number of cases, which yielded instability in the models, Moroccans were combined with other non-EU nationals.

Table 3: Effects on the risk of obtaining a first significant job in Belgium (coefficients from competing risk piecewise constant exponential models)

	Model 1		Model 2		Model 3		Model 4	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
PTM-jobs								
EU	-0.51**	(0.18)	-0.37**	(0.18)	-0.32*	(0.18)	-0.38*	(0.21)
non-EU	-0.99**	(0.16)	-0.42**	(0.16)	-0.41**	(0.16)	-0.45**	(0.19)
female	0.27**	(0.06)	0.10	(0.07)	0.11*	(0.07)	0.11*	(0.07)
age at leaving education	0.28**	(0.01)	0.11**	(0.02)	0.11**	(0.02)	0.11**	(0.02)
medium education			1.61**	(0.30)	1.57**	(0.30)	1.57**	(0.30)
high education			2.98**	(0.30)	2.88**	(0.30)	2.88**	(0.30)
education in host country			-1.11	(0.82)	-1.14	(0.82)	0.33	(1.11)
parental educ. med.					0.20**	(0.09)	0.21**	(0.09)
parental educ. high					0.28**	(0.08)	0.29**	(0.08)
EU × waiting time							0.09	(0.09)
non-EU × waiting time							0.04	(0.09)
waiting time home country							-0.84	(0.64)
CS-jobs								
EU	-0.03	(0.20)	-0.04	(0.20)	-0.01	(0.20)	0.09	(0.22)
non-EU	-0.21	(0.15)	-0.22	(0.16)	-0.16	(0.16)	-0.21	(0.19)
female	0.73**	(0.08)	0.73**	(0.08)	0.76**	(0.08)	0.76**	(0.08)
age at leaving education	0.02	(0.01)	0.05**	(0.02)	0.05**	(0.02)	0.05**	(0.02)
medium education			0.40**	(0.12)	0.37**	(0.12)	0.37**	(0.12)
high education			0.07	(0.16)	0.02	(0.16)	0.02	(0.16)
education in host country			-0.31	(0.58)	-0.38	(0.58)	-0.75	(1.01)
parental educ. med.					0.34**	(0.09)	0.34**	(0.09)
parental educ. high					0.09	(0.11)	0.09	(0.11)
EU × waiting time							-0.12	(0.14)
non-EU × waiting time							0.03	(0.08)
waiting time home country							0.22	(0.29)
Blue-collar jobs								
EU	0.17	(0.22)	0.13	(0.23)	0.10	(0.23)	0.24	(0.25)
non-EU	-0.15	(0.14)	-0.32**	(0.15)	-0.40**	(0.15)	-0.68**	(0.19)
female	-1.12**	(0.09)	-1.02**	(0.09)	-1.07**	(0.09)	-1.06**	(0.09)
age at leaving education	-0.18**	(0.02)	-0.03	(0.02)	-0.03	(0.02)	-0.03	(0.02)
medium education			0.08	(0.09)	0.17*	(0.09)	0.15*	(0.09)
high education			-1.78**	(0.19)	-1.57**	(0.19)	-1.59**	(0.19)
education in host country			0.69*	(0.37)	0.71*	(0.37)	0.81	(0.74)
parental educ. med.					-0.45**	(0.09)	-0.45**	(0.09)
parental educ. high					-0.57**	(0.13)	-0.56**	(0.13)
EU × waiting time							-0.14	(0.16)
non-EU × waiting time							0.18**	(0.06)
waiting time home country							-0.14	(0.21)

Notes: ** p<0.05, * p<0.10

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on school-to-work transitions

Table 4: Effects on the risk of obtaining a first significant job in Spain (coefficients from competing risk piecewise constant exponential models)

	Model 1		Model 2		Model 3		Model 4	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
PTM-jobs								
EU	-0.13	(0.17)	-0.27	(0.41)	-0.38	(0.40)	-0.80*	(0.45)
non-EU	-1.06**	(0.22)	-0.87**	(0.39)	-1.12**	(0.39)	-0.78**	(0.40)
female	0.15**	(0.04)	0.02	(0.04)	0.05	(0.04)	0.05	(0.04)
age at leaving education	0.26**	(0.00)	0.16**	(0.01)	0.15**	(0.01)	0.15**	(0.01)
medium education			1.15**	(0.13)	1.13**	(0.13)	1.13**	(0.13)
high education			2.35**	(0.12)	2.27**	(0.12)	2.28**	(0.12)
education in host country			-1.21	(0.84)	-0.87	(0.84)	-0.64	(1.53)
missing YSM			0.10	(0.41)	0.24	(0.40)	0.42	(0.41)
parental educ. medium					0.25**	(0.06)	0.26**	(0.06)
parental educ. high					0.56**	(0.05)	0.56**	(0.05)
EU × waiting time							0.11*	(0.06)
non-EU × waiting time							-0.30**	(0.13)
waiting time home country							0.18	(0.54)
CS-jobs								
EU	-0.20	(0.18)	0.30	(0.31)	0.29	(0.31)	0.24	(0.37)
non-EU	0.01	(0.14)	0.26	(0.24)	0.25	(0.24)	0.44*	(0.26)
female	0.90**	(0.04)	0.88**	(0.04)	0.88**	(0.04)	0.88**	(0.04)
age at leaving education	0.05**	(0.00)	0.04**	(0.01)	0.04**	(0.01)	0.04**	(0.01)
medium education			0.61**	(0.05)	0.60**	(0.05)	0.60**	(0.05)
high education			0.17**	(0.07)	0.17**	(0.07)	0.16**	(0.07)
education in host country			0.04	(0.33)	0.08	(0.33)	1.10**	(0.56)
missing YSM			-0.56	(0.30)	-0.58**	(0.29)	-0.44	(0.30)
parental educ. medium					0.20**	(0.06)	0.20**	(0.06)
parental educ. high					-0.01	(0.07)	-0.02	(0.07)
EU × waiting time							-0.03	(0.08)
non-EU × waiting time							-0.16**	(0.08)
waiting time home country							-0.29	(0.23)
Blue-collar jobs								
EU	-0.58**	(0.19)	-0.35	(0.19)	-0.34	(0.34)	0.13	(0.38)
non-EU	0.03	(0.13)	-0.00	(0.24)	0.02	(0.24)	-0.12	(0.29)
female	-1.15**	(0.04)	-1.12**	(0.04)	-1.12**	(0.04)	-1.12**	(0.04)
age at leaving education	-0.04**	(0.00)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)
medium education			-0.06	(0.05)	-0.04	(0.05)	-0.04	(0.05)
high education			-0.59**	(0.07)	-0.55**	(0.07)	-0.55**	(0.07)
education in host country			0.37	(0.32)	0.31	(0.32)	0.09	(0.45)
missing YSM			-0.25	(0.30)	-0.24	(0.30)	-0.27	(0.30)
parental educ. medium					-0.22**	(0.06)	-0.22**	(0.06)
parental educ. high					-0.46**	(0.08)	-0.46**	(0.08)
EU × waiting time							-0.19**	(0.09)
non-EU × waiting time							0.05	(0.06)
waiting time home country							0.07	(0.12)

Notes: ** p<0.05, * p<0.10

Source: Linked EU LFS 2000 and EU LFS 2000 ad hoc module on school-to-work transitions

The results regarding access to the *blue-collar jobs* differ from those for both other types of jobs. Here, we find notably different patterns in the two countries. In all models for Belgium, there are no apparent differences between EU immigrants and indigenous youth. In Spain, however, EU immigrants have a significantly lower risk of entering blue-collar jobs, mainly due to their higher education (compare model 2 to model 1). Most obviously, however, the countries differ with respect to the entry patterns of non-EU youth. In Spain, none of the models show any effect for this group. In Belgium, the gross effect (model 1) is also close to zero. However, after introducing the control variables in models 2 to 4, the non-EU youth are shown to be disadvantaged in the Belgium labor market with respect to BC jobs. Most interestingly, we find a significant positive effect of this group's waiting time in model 4. This points to a diminishing gap between the indigenous population and non-EU immigrants over the course of time, presumably due to the acquisition of more country-specific information by the immigrants.

5 Summary and discussion

In this paper an attempt is made to disentangle the mechanisms leading to ethnic inequalities at labour market entry and thus enhance the understanding of ethnic inequalities using comparative longitudinal information available from the EU LFS 2000 ad hoc module. Since data constraints do not allow us to conduct a wide-scale cross-national comparison, we focus on Belgium and Spain, two European countries with different histories of immigrant acceptance and contexts of immigrant integration. Examining the transition from education to first significant jobs in general, and access to higher-status professional, technical and managerial jobs as the most telling indicator of social inclusion in particular, we find notable ethnic disadvantages in both contexts, especially for non-EU immigrants and/or nationals. However, the general background against which these disadvantages appear, as well as the mechanisms which seem to account for the observed inequalities obviously differ between the two countries.

First, the transition from the educational system to the labour market happens more quickly in Belgium, as the rates of entering the first significant job there are much higher (especially for higher status jobs) soon after leaving education. In contrast, a converse pattern of transition is found in Spain where the risks of entering any kind of job are much lower immediately after leaving school but tend to slightly increase in the following years, most notably for lower status blue-collar jobs. Although general patterns of labour market entry by young people differ in Belgium and Spain, in both countries non-EU immigrants and/or nationals face a clear disadvantage with respect to higher status jobs, which is manifested in a highly significant negative relative effect on the baseline transition rates. While the parametric models do not distinguish between more than two broad immigrant groups (EU

and non-EU immigrants and/or nationals), the survival functions presented in section 4.2 show that ethnic disadvantages of Moroccan youth are indeed pronounced in both countries. Larger sample sizes would allow finer distinctions among ethnic minority groups.

The time-dependent multivariate analyses reveal that the mechanisms leading to gross disadvantages at labour market entry differ between the countries. In Belgium, on the one hand, ethnic inequalities with respect to access to higher status jobs are, to a large degree, a matter of inferior educational qualifications. However, although the effect of ethnicity considerably diminishes when controlling for education (and also parental education), it does not completely disappear. This suggests that discrimination in the labour market is an additional factor responsible for ethnic inequalities at labour market entry. In Spain, on the other hand, differences in educational qualifications and social origin (in terms of parental education) do not seem to account for ethnic inequalities. Rather, we find a nearly unchanged negative net effect for non-EU immigrants when controlling for these and other variables, which points to the existence of marked discrimination. In addition, we also find that the gap between non-EU and indigenous youth widens with the passage of time after leaving education, which can be attributed to the process of self-selection. Since job search costs and the (subjective) probability of success in finding a job are lower among minority youth, they might give up their search for higher status jobs earlier.

The analyses of the time-dependent risk of entering other types of jobs, i.e., service or clerical as well as blue collar employment, and especially the changes in the relative disadvantages of the ethnic minorities' youth over time provides further interesting results and confirms the existence of other mechanisms underlying labour market integration processes. For example, we find that in Belgium the gap between the indigenous youth and non-EU nationals with respect to blue-collar jobs decreases over time, which may be explained by the improved specific knowledge of the latter on the labour market of the host country. Self-selection mechanism might also play a role. Some discouraged ethnic minority job seekers give up their search for higher status jobs and are pushed to the pool of lower status job seekers, where they might obtain employment more quickly. Unfortunately, we lack more direct measures of country-specific capital such as language skills or information networks to validate and strengthen our interpretations. Also, we lack some other variables which are needed to account for remaining ethnicity effects, e.g., place (region) of residence, which in previous research proved to be essential for both countries because of the regional differences in the chances of finding employment. Despite of these shortcomings, the data from the EUFLS 2000 ad hoc module provide useful insights into the mechanisms of ethnic inequalities at labour market entry in both countries and thus enhances the understanding of the processes of immigrant integration in general.

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