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Citation for published version (APA):

de Grip, A., & Wolbers, M. H. J. (2006). Cross-national differences in job quality among low-skilled young workers in Europe. *International Journal of Manpower*, 27(5), 420-433.  
<https://doi.org/10.1108/01437720610683930>

## Document status and date:

Published: 01/01/2006

## DOI:

[10.1108/01437720610683930](https://doi.org/10.1108/01437720610683930)

## Document Version:

Publisher's PDF, also known as Version of record

## Please check the document version of this publication:

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# Cross-national differences in job quality among low-skilled young workers in Europe

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## Abstract

**Purpose** – The purpose of this paper is to analyse the extent to which the quality of the jobs of low-skilled young workers is affected by the structure of education and training systems in various European countries. It focuses on the differences between countries providing fairly general education (internal labour market (ILM) contexts) and countries offering more specific vocational education (occupational labour market (OLM) contexts).

**Design/methodology/approach** – Logistic regression analyses.

**Findings** – It is found that low-skilled young workers are worse off in OLM countries than in ILM ones, with respect to employment in a permanent job, employment in a non-elementary job and participation in continuing vocational training. However, in OLM countries low-skilled young workers are less often involuntary part-time employed than those in ILM countries. With regard to participation in continuing vocational training, the ILM-OLM contrast is larger in manufacturing than in services; regarding employment in a permanent job the reverse is true.

**Originality/value** – It is shown that the labour market position of low-skilled young workers is affected by the structure of education and training systems in various European countries. The upgrading of the skills demanded in the European “knowledge economies” will therefore have less severe consequences for low-skilled young workers in ILM countries than in OLM countries, since the acquisition of occupationally specific skills is organized differently between the two institutional contexts.

**Keywords** Internal labour market, Vocational training, Education and training, Europe

**Paper type** Research paper

## 1. Introduction

Patterns of labour market entry differ considerably across European countries. There are marked cross-national differences not only in terms of youth unemployment, but also in terms of the quality of the jobs in which young people are employed (Müller and Gangl, 2003). In addition, the upgrading of skill requirements in most occupational fields threatens the labour market position of low-skilled young workers who are crowded out of their traditional occupational domains (Borghans and De Grip, 2000). This means that they are either locked up in bad quality jobs with flexible contracts

The authors would like to thank Frank Cörvers, Hans Heijke, Philip Marey and two anonymous referees for their useful comments on earlier drafts of this article.



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that further weaken their labour market position, or crowded out of employment entirely. De Grip *et al.* (1997) showed that an increasing share of the workforce in European Union member states is employed in so-called atypical jobs: part-time jobs and temporary contracts. This atypical employment is highly concentrated among low-skilled and young workers.

However, there may be a difference in job quality among low-skilled young workers in the various European countries due to the institutional arrangements that shape processes of labour market entry. More specifically, a distinction can be made between an occupational context – where young people are introduced into the world of labour by means of an elaborated system of vocational education and training, existing in countries such as Germany (and its neighbouring countries) – and an organizational one such as in France and the United Kingdom – where processes of labour market entry mainly depend upon the trainability of individuals after they have left initial, often general education. This basic contrast is found in the literature under various headings, with as common notion two distinct equilibria in labour market entry processes and associated patterns of labour market integration for young people (Gangl, 2001). Maurice *et al.* (1982) refer to a difference between occupational and organizational spaces, whereas Marsden (1990) makes a distinction between systems of occupational labour markets and systems of internal labour markets. From the educational point of view, education systems are viewed as being highly versus weakly stratified (Allmendinger, 1989) or coupled versus decoupled institutionally arranged (Hannan *et al.*, 1997).

In this article, we use this dichotomy to analyse cross-national variation in job quality among low-skilled young workers in Europe. In our analysis, we determine the job quality by:

- the permanency of the contract;
- having a full-time or voluntary part-time job[1];
- the level of the job; and
- the participation in continuing vocational training.

Building on Marsden's work, we concentrate on differences between countries in which internal labour markets are prevalent and countries in which occupational labour markets dominate. Based on data from the European Union Labour Force Survey for eleven member states collected in the period 1988-1997, we assess whether the observed cross-national differences in job quality among low-skilled young workers in Europe actually go in the direction hypothesized from the underlying institutional argument. Given differences between sectors of industry in the speed of the upgrading process and the accompanying decrease in demand for low-skilled workers, we analyse the job quality of low-skilled workers in manufacturing and the service sector separately.

The article is organized as follows. In section 2 we discuss the main characteristics of internal and occupational labour market systems and the expected implications of these two institutional contexts for the job quality of low-skilled young workers. Section 3 discusses the data and the variables used in the empirical analysis. In section 4, the estimation results of logistic regression analyses are presented. Section 5 concludes.

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## 2. The role of education and training systems: internal versus occupational labour markets

A large number of studies deal with the idea that the structure of education and training systems has important effects on processes of labour market entry (see for instance Maurice *et al.*, 1982; Allmendinger, 1989; Marsden, 1990; Hannan *et al.*, 1997; Shavit and Müller, 1998; Müller and Gangl, 2003). Although the arguments put forward in these studies are more or less the same, the concepts applied and the terminology used are slightly different. Marsden (1990), for instance, applies labour market segmentation concepts by giving a macro level characterization of national labour markets in terms of ILM and OLM contexts[2]. What matters is that countries differ in the extent to which there is an institutional link between the education and training system and labour market institutions. Basically, this debate refers to the issue whether or not a country has an education system that provides occupationally specific skills and generates related patterns of labour market entry. In ILM contexts, mainly general education is offered. In such countries, education is weakly related to the workplace and vocational education is primarily obtained on the job. According to Thurow (1975), this on-the-job-training can be considered as a way of acquiring the knowledge and skills required to perform a job adequately. The initial educational background is often only used as a “screening device” to judge the workers’ trainability, while the enhancement of productive skills takes place by means of specific enterprise-related training. When workers have completed this general education, they have shown that they can apply the acquired skills successfully in the firm. Then, employers will change their entrance jobs into more stable ones and offer these workers opportunities for intra-firm upward mobility (Doeringer and Piore, 1971). In OLM contexts, on the other hand, occupationally specific skills are taught in the initial system of education and training. In such countries, the link between the education and training system and the labour market is strong, although the way this close link is institutionalized may differ. In some countries the teaching of vocational skills is shared between vocational schools and the workplace, such as in the apprenticeship systems in Germany and surrounding countries (“dual system”). In other cases, however, the provision of vocational skills is primarily school based (for instance in the Netherlands).

So, the structure of the education and training system in a country determines its recruitment process and its patterns of labour mobility. From this point of view, Gangl (2001) characterized various European countries as ILM or OLM by means of a cluster analysis based on several indicators on labour mobility, recruitment behaviour, structure of unemployment in early career and career patterns of attainment. In ILM countries there is, for instance, an experience graded pattern of upward job mobility, whereas OLM countries are characterized by an immediate close match between the vocational background acquired in initial education by labour market entrants and the occupation they are employed in. In the former countries, worker-job matches are primarily achieved by means of firm-internal training, and therefore, labour market entry in ILM countries can be described as “much less tightly structured by education, less orderly, more amenable to career contingencies and discretionary employer behaviour” (Gangl, 2001, p. 474).

When vocational education is occupation specific, labour market entrants have specific skills that prepare them for particular jobs. For employers, they are very

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attractive, since the curricula of the vocational programme followed already supply them the skills required for the job, which reduces the training costs for employers. Consequently, in countries that provide a differentiated system of vocational education, the association between education and labour market outcomes is closer and, subsequently, the quality of the jobs young workers have is better than in countries that primarily offer general education (Marsden and Ryan, 1995; Shavit and Müller, 1998; Müller and Gangl, 2003). However, this finding only holds for medium- and high-skilled labour market entrants. For low-skilled young workers, we may expect opposite effects. In ILM countries, jobs are quite easily accessible without the proper qualifications, because of the entry-port employment structure there. In OLM countries, in contrast, where access to jobs is much more restrictive for individuals without the required skills, it is likely that low-skilled young workers have more difficulties finding stable and secure jobs. Therefore, our first hypothesis is formulated as follows:

*H1.* In OLM countries, the job quality of low-skilled young workers is worse than in ILM countries.

The quality of the jobs held by low-skilled young workers may also be affected by the upgrading of the skill level demanded in the various sectors of industry. Both the diffusion of information technology (Machin and Van Reenen, 1998) and workplace reorganizations (Bresnahan *et al.*, 2002) shifted the demand from low-skilled toward high-skilled labour. This “skill-biased technological change” is stronger in manufacturing than in services (Goos and Manning, 2003). Moreover, in the European countries we analyse, international specialisation in medium or high-tech industries contributes to the upgrading of the skill level demanded in manufacturing (Wood, 1994). Therefore, the disadvantaged labour market position of low-skilled young workers is probably more distinct in manufacturing than in services.

In the United States, where wage setting is flexible, this upgrading process has been absorbed through wider wage gaps between high- and low-skilled workers, whereas in Europe, where labour markets are more rigid, it has been adjusted to a large extent through high unemployment among low-skilled workers and the allocation of an increasingly large proportion of low-skilled workers to temporary and involuntary part-time jobs (DiPrete, 2005). However, there is a quite a lot of heterogeneity across European countries. Maurin and Postel-Vinay (2005) refer to differences in the institutions regarding employment protection across European countries. These differences are closely related to the ILM-OLM dichotomy, since particularly OLM countries protect the labour market position of higher skilled workers, leaving less opportunities for low-skilled young workers entering the labour market. Moreover, as mentioned above, internal labour markets offer more opportunities for low-skilled young workers to be trained on the job. The upgrading of skill requirements may therefore particularly worsen the job quality of low-skilled workers in the manufacturing sector in OLM countries. Therefore, our second hypothesis states that:

*H2.* The worse job quality of low-skilled young workers in OLM countries is more distinct in manufacturing than in services.

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### 3. Data and variables used

To test these two hypotheses, we analyse data from the European Union Labour Force Survey (EU LFS) for the period 1988-1997. The EU LFS is a combination of the original Labour Force Survey (LFS) as held annually in the member states. The EU LFS constitutes the best available data set on the job quality of low-skilled young workers in Europe, because of its scale and its comparability between countries. We exclude the countries Austria, Sweden and Finland from the analysis, since data for these countries are only available since 1995 (due to their more recent membership of the European Union)[3]. Luxembourg is excluded from the analysis due to small sample sizes.

Young workers are defined as individuals aged 15-34 years old. In addition, we select only those young workers who have left initial education within the past ten years – in order to analyse a cohort of recent entrants into the labour force. Since actual information on the age of leaving initial education is not available in the data set, we approximate the age of leaving education by means of the average graduation age for a particular level of education in a country. Furthermore, the EU LFS data set is based on the regular ILO definition about the labour force. This implies that individuals who were currently both in employment and in initial education or training (i.e. working students or young people participating in an apprenticeship programme) are counted as employed, whereas their main activity actually was student. Therefore, a small modification to the ILO definition is applied in this article. All people who were employed at the time of the survey, but who were in initial education at the same time, are excluded from the active labour force[4].

Four aspects of job quality are analysed. First of all, we look at the permanency of the job by distinguishing between permanent and temporary jobs. A permanent position reflects a job with a contract of unlimited duration. Second, the probability of being in full-time or voluntary part-time employment is analysed. The latter refers to workers who had a part-time job, but did not want a full-time job (see footnote 1). Third, we determine the likelihood of having a non-elementary job. Non-elementary employment refers to jobs that do require a minimum level of skills. Employment in a non-elementary job is based on the first-digit level of the International Standard Classification of Occupations (ISCO-88 (COM)[5]. Fourth, we look at the training activities of workers in the last four weeks before the survey. Training activities were restricted to participation in continuing vocational training to advance or change the working career.

All four dependent variables are indicators that refer to the same theoretical concept and can, therefore, be analysed separately. This approach offers a rather strict, multiple test of the formulated hypotheses. A simultaneous estimation of the four dependent variables is less preferable, since such an analysis only has an advantage when there is a clear trade-off between two labour market characteristics, which is not the case with the variables we use[6].

To explore the role of education and training systems in explaining cross-national variation in job quality among low-skilled young workers in Europe, we adopt the grouping of countries as proposed by Gangl (2001). It appeared from his cluster analysis that countries in which the education and training system is occupationally specific, were clearly separated from countries that do not have such training arrangements in initial education. Belgium, France, Ireland and the United Kingdom are characterized as countries in which internal labour markets are prevalent, opposed

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to Germany, Denmark and the Netherlands in which occupational labour markets dominate. In addition, the Southern European countries of Greece, Italy, Portugal and Spain were identified as a distinct, third cluster without any substantive explanation of the pattern the various indicators showed, although Spain has some characteristics of an ILM context[7].

Industrial sectors are defined on the basis of the general industrial classification of economic activities (NACE Rev. 1). We distinguish between the sectors manufacturing (including the sections Mining and quarrying, Electricity, gas and water supply and Construction; sections C-F) and services (sections G-Q).

The level of education attained by young workers is measured in terms of the International Standard Classification of Education (ISCED). Steedman and McIntosh (2001) showed that ISCED2 is the most adequate cut-off point for determining the group of low-skilled workers. Low-skilled workers are therefore defined as individuals with lower secondary education (ISCED0-2) at most. Higher skilled workers are those with a diploma at the ISCED3 level or higher.

In addition, a number of covariates is included in the analysis. Gender differences are taken into account by distinguishing between men and women. The number of years since leaving education is added to correct for differences in working experience. This variable is measured as the difference between the age of leaving education and the age at the time of the survey and it ranges between 0 and 10 years. Youth labour market conditions at the time of the survey are controlled for, by using the unemployment level among young people aged 15-24 years old in a country at labour market entry. Using the unemployment rates for this restricted age group has the advantage that it excludes the high-skilled young workers to a large extent, as in most European countries high-skilled young people are older than 24 years when they enter the labour market. The youth unemployment rates are taken from EUROSTAT (2005). Besides of being a control variable for macro-economic youth labour market conditions, this variable can be seen as a crude correction for possible selection bias linked to different employment opportunities for (low-skilled) young people between various institutional contexts.

#### 4. Empirical analysis

In Table I, a description is given of the job quality of low-skilled young workers in the three institutional contexts. The table shows that for low-skilled young workers the quality of the jobs is less than for higher skilled young workers. This holds for all the job quality characteristics shown and for all institutional contexts distinguished. However, the size of this educational effect differs between the various job quality characteristics and the different institutional contexts. To determine this variation in effect size, and to test the two hypotheses formulated above, we applied logistic regression analyses to the data. For each dependent variable, we made separate estimates for the manufacturing and services sectors. Furthermore, we included statistical interaction terms between the institutional context variables and level of education in the models. This enables us to distinguish the effects of the institutional context on the quality of the jobs between low-skilled and higher skilled young workers.

In Table II the results of logistic regression analysis with regard to the likelihood of being permanent employed are presented. The estimation results show that low-skilled

	Being permanently employed		Being full-time employed	
	Manufacturing (%)	Services (%)	Manufacturing (%)	Services (%)
<i>ILM</i>				
Low skilled	0 88.2	0 84.4	98.4	91.7
Higher skilled	92.0	87.8	99.0	94.7
<i>OLM</i>				
Low skilled	88.6	80.3	99.0	95.9
Higher skilled	94.1	86.4	99.6	97.4
<i>Southern Europe</i>				
Low skilled	70.6	63.4	98.7	95.9
Higher skilled	78.8	77.1	98.8	96.7
	Having a non-elementary job		Participating in continuing vocational training	
<i>ILM</i>				
Low skilled	85.7	83.1	90.5	86.9
Higher skilled	95.7	96.3	85.7	82.2
<i>OLM</i>				
Low skilled	72.6	72.2	93.5	89.0
Higher skilled	94.5	93.7	91.3	85.2
<i>Southern Europe</i>				
Low skilled	84.4	82.5	99.3	98.8
Higher skilled	94.6	96.3	95.7	92.8

**Table I.**  
Indicators of the job quality of young workers by level of education and institutional context: percentages

**Source:** Pooled EU LFS-data 1988-1997

young workers in OLM countries less often have a permanent job than low-skilled young workers in ILM countries. This finding holds for both manufacturing and services and, thus, corroborates our first hypothesis. The implied odds ratios are 0.653 ( $e^{-0.426}$ ) and 0.563 ( $e^{-0.574}$ ), respectively. Also in Southern Europe, low-skilled young workers have less often a permanent job than those in ILM countries. Once again, this holds for both manufacturing and services.

The difference between ILM and OLM countries in low-skilled young workers' opportunities to have a permanent position is larger in services than in manufacturing. According to Table III, the difference between manufacturing and services in the effect of the institutional context on the odds of low-skilled young workers to be permanent employed is statistically significant. This finding falsifies the second hypothesis. The same is true for the Southern European countries. Also in these countries, the contrast with ILM countries is larger in the service sector than in manufacturing.

In addition, the results clearly demonstrate that women are more likely to be employed on a permanent basis than men. Furthermore, the number of years since leaving education has a positive effect on the odds of being permanent employed. Young workers who left education a longer time ago have more often a permanent job than those who left education recently. This indicates that for some workers temporary employment merely occurs in the first years of their working career (see Dekker *et al.*, 2002). Finally, the findings show that youth labour market conditions matter with

	Being permanently employed		Being full-time employed		Cross-national differences in job quality
	Manufacturing	Services	Manufacturing	Services	
Intercept	2.340 **	1.889 **	4.933 **	3.863 **	<b>427</b>
<i>Institutional context</i>					
ILM	ref.	ref.	ref.	ref.	
OLM	-0.426 **	-0.574 **	0.162	0.321 **	
Southern Europe	-0.303 **	-0.439 **	0.892 **	1.646 **	
<i>Level of education</i>					
Low skilled	ref.	ref.	ref.	ref.	
Higher skilled	0.624 **	0.395 **	0.581 **	0.668 **	
<i>Gender</i>					
Male	ref.	ref.	ref.	ref.	
Female	0.124 **	0.066 **	-0.847 **	-0.852 **	
Years since leaving education	0.135 **	0.134 **	0.053 **	0.065 **	
Youth unemployment rate	-0.068 **	-0.058 **	-0.051 **	-0.077 **	
<i>Level of education × institutional context</i>					
Higher skilled × OLM	0.475 **	0.255 **	0.559 **	0.013	
Higher skilled × Southern Europe	-0.033	0.322 **	-0.344 *	-0.286 **	
Model Chi <sup>2</sup>	8,049 **	9,850 **	408 **	3,840 **	
Df	8	8	8	8	
n	84,314	162,939	87,314	173,107	

**Notes:** \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; ref. = reference category  
**Source:** Pooled EU LFS-data 1988-1997

**Table II.** Estimation results of logistic regression analyses of being permanently employed and being full-time employed: logit effects

	ILM	OLM	Southern Europe
Being permanently employed		0.148 **	0.136 **
Being full-time employed		-0.159	-0.754 **
Having a non-elementary job		-0.093	-0.207 **
Participating in continuing vocational training		-0.238 **	-0.279 **

**Notes:** \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; <sup>a</sup> = differences are calculated as  $\beta_{\text{manufacturing}} - \beta_{\text{services}}$ ; the *t*-values of these differences are calculated as  $(\beta_{\text{manufacturing}} - \beta_{\text{services}}) / \sqrt{(\text{var}(\beta_{\text{manufacturing}}) + \text{var}(\beta_{\text{services}}))}$ ; ref. = reference category  
**Source:** pooled EU LFS-data 1988-1997

**Table III.** Significance test of differences<sup>a</sup> in the effects of the institutional context for low-skilled young workers between manufacturing and services: logit effects

respect to permanent employment. The higher the level of youth unemployment, the smaller the likelihood that those who are employed have a permanent job.

Table II also shows the estimation results of the analysis regarding the likelihood of being full-time (or voluntary part-time) employed. The results show that in OLM countries low-skilled young workers are more often full-time employed than in ILM countries. However, the difference is only significant for those who are employed in the service sector. Nevertheless, the ILM versus OLM contrast with regard to full-time employment does not differ significantly between the manufacturing and service

sector. These findings imply that the two hypotheses must be rejected with respect to this aspect of job quality. It should be noted, however, that in all countries only a small number of low-skilled young workers are employed in involuntary part-time jobs.

In Southern Europe, low-skilled young workers are most often employed in a full-time job, especially in the service sector. In services, the odds of being full-time employed is more than five times larger in Southern Europe than in ILM countries ( $e^{1.646} = 5.186$ ).

Furthermore, the results show that women are less likely to be full-time employed than men. The number of years since leaving education matters as well: it has a positive effect on the likelihood of having a full-time job. Again, this indicates that some workers are only employed in involuntary part-time jobs in the first years of their working career. Finally, youth labour market conditions affect full-time employment. The higher the youth unemployment rate at labour market entry, the smaller the likelihood that young workers who are employed have a full-time job.

Table IV shows the estimation results of the analysis regarding the likelihood of having a non-elementary job. The table shows that low-skilled young workers in OLM countries are less likely to be employed in a non-elementary job than low-skilled young workers in ILM countries. The implied odds ratio's are 0.412 ( $e^{-0.887}$ ) and 0.452 ( $e^{-0.794}$ ) for the manufacturing and service sector, respectively. This suggests that there is no difference in the contrast between ILM and OLM countries with respect to

	Having a non-elementary job		Participating in continuing vocational training	
	Manufacturing	Services	Manufacturing	Services
Intercept	1.599**	1.874**	-0.723**	-0.483**
<i>Institutional context</i>				
ILM	ref.	ref.	ref.	ref.
OLM	-0.887**	-0.794**	-0.895**	-0.657**
Southern Europe 0.097	0.304**	-2.343**	-2.064**	
<i>Level of education</i>				
Low skilled	ref.	ref.	ref.	ref.
Higher skilled	1.338**	1.681**	0.540**	0.503**
<i>Gender</i>				
Male	ref.	ref.	ref.	ref.
Female	0.155**	0.182**	-0.092**	-0.163**
Years since leaving education	0.067**	0.038**	-0.075**	-0.047**
Youth unemployment rate	-0.013**	-0.031**	-0.067**	-0.067**
<i>Level of education × institutional context</i>				
Higher skilled × OLM	0.679**	0.512**	-0.299**	-0.143**
Higher skilled × Southern Europe	-0.172*	0.046	1.708**	1.689**
Model Chi <sup>2</sup>	2,135**	5,758**	4,165**	7,866**
Df	8	8	8	8
n	50,688	113,409	86,663	171,028

**Table IV.**  
Estimation results of logistic regression analyses of having a non-elementary job and participating in continuing vocational training: logit effects

**Notes:** \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; ref. = reference category

**Source:** pooled EU LFS-data 1988-1997

non-elementary employment between the two sectors. Together, these findings support the first hypothesis, but falsify the second. In Southern Europe, low-skilled young workers more often have a non-elementary job than those in ILM countries, but the difference is only significant in the service sector.

Moreover, we find that women are more often working in a non-elementary job than men. Also the number of years since leaving education has a positive impact: young workers who left education a longer time ago are more often employed in a non-elementary job than those who left education more recently. This indicates that for some workers employment in elementary jobs is concentrated in their early working career (see for instance Lynch, 1993). Finally, youth labour market conditions matter: the higher the level of youth unemployment, the lower the likelihood that young low-skilled workers who have a job are employed in a non-elementary job.

Table IV also shows the estimation results of the analysis with regard to the likelihood of participating in continuing vocational training. We find that in OLM countries the participation in continuing vocational training among low-skilled young workers is lower than in ILM countries. This corroborates our first hypothesis. Moreover, the results show that the difference in training participation of low-skilled young workers between ILM and OLM countries is larger in manufacturing than in services (for the statistical test of significance, see Table III). This finding supports the second hypothesis. In Southern Europe, the participation of low-skilled young workers in further training is the lowest. This finding holds for both manufacturing and services, although the contrast with ILM countries is somewhat more distinct in manufacturing.

Furthermore, we find that female young workers participate less often in continuing vocational training than male workers. The estimation results also show that investments in continuing training are made more often by young workers who left initial education more recently. Finally, the estimation results demonstrate that high youth unemployment lowers participation in continuing vocational training. This finding shows that the investments in training activities of young workers are sensitive for cyclical fluctuations in the economy. An increase of 1 per cent in the youth unemployment rate coincides with a decrease of nearly 7 per cent in the odds of participating in further training ( $e^{-0.067} = 0.935$ ) This finding holds for both manufacturing and services.

## 5. Conclusion

In this article, we analysed the extent to which the quality of the jobs of low-skilled young workers is affected by the structure of education and training systems in various European countries. The focus was on the differences between countries providing fairly general education (ILM contexts) and countries offering more specific vocational education (OLM contexts). In our analysis, we determined the job quality of low-skilled young workers by four aspects of the job:

- (1) the permanency of the contract;
- (2) having a full-time or voluntary part-time job;
- (3) the level of the job; and
- (4) the participation in continuing vocational training.

From the existing literature we derived the hypothesis that in countries that are characterized by OLM contexts, the job quality of low-skilled young workers is worse than in countries that are dominated by ILM contexts, because in ILM countries, “entry-port” jobs are more easily accessible without the proper qualifications. In OLM countries, in contrast, where access to jobs is much more restrictive for individuals without the required skills, low-skilled young workers have presumably more difficulties finding stable and secure jobs. In addition, we hypothesized that the worse job quality of low-skilled young workers in OLM countries is more distinct in manufacturing than in services, due to differences in the upgrading of the skill level demanded between these two sectors of industry.

The results of logistic regression analyses, based on pooled European Union Labour Force Survey data, showed that, as hypothesized, the job quality of low-skilled young workers in terms of employment in a permanent job, employment in a non-elementary job and participation in continuing vocational training is worse in OLM countries than in ILM ones. However, in contrast to what we expected, low-skilled young workers in OLM countries are more often full-time (or voluntary part-time) employed than those in ILM countries. However, as mentioned above, also in ILM countries only a small number of low-skilled young workers are employed in involuntary part-time jobs.

With respect to the participation of low-skilled young workers in continuing vocational training, the ILM versus OLM contrast is, as expected, larger in manufacturing than in services. However, there is no significant difference between services and manufacturing regarding the likelihood of being full-time (or voluntary part-time) employed and having a non-elementary job in ILM and OLM countries. Moreover, contrary to what we hypothesized, the difference between ILM and OLM countries in the likelihood of low-skilled young workers being permanently employed is smaller in manufacturing than in services. As expected, we also found that all four aspects of job quality are significantly negatively related to the youth unemployment rate[8].

In addition to the dichotomy of ILM versus OLM countries, the logistic regression analyses demonstrated that, in terms of job quality among low-skilled young workers, the Southern European countries have a different institutional context. Especially with regard to full-time employment and participation in continuing vocational training, Southern Europe stands out distinctly. With respect to the permanency of jobs, the Southern European context is quite similar to the situation in OLM countries. However, regarding non-elementary employment, finally, Southern Europe is like ILM countries. So, given this empirical evidence, it is not the characteristics of the initial education and training system that explains the job quality of the low-skilled young workers in these countries. Therefore, an alternative explanation has to be formulated to provide a clear interpretation of Southern European patterns of labour market entry among low-skilled young workers. Probably, the role played by the family cannot be neglected in young people’s transition to employment in Southern Europe, in combination with the relative weakness of the welfare state provisions there (Esping-Andersen, 1999).

To conclude, our findings suggest that low-skilled young workers are indeed worse off in countries in which occupational labour markets dominate than in countries characterized by internal labour markets. So, the vulnerability of the least qualified young workers in the labour market is clearly affected by a country’s institutional context. As the European economy more and more develops in the direction of a “knowledge economy”, the demand for higher job qualifications in most occupational

fields will in general threaten the quality of the jobs of low-skilled workers in the sense that they are either locked up in poorly paid elementary jobs with flexible contracts or crowded out of employment entirely. This process of skills upgrading will, however, have less serious consequences for low-skilled young workers in ILM countries than in OLM ones, since the acquisition of occupational skills is differently organized in the two institutional contexts. Internal labour markets where vocational training is organized on-the-job have the advantage “that workers are not so much restricted to narrowly defined occupational fields and that new generations of entrants can flexibly be directed to new and future-oriented occupational fields” (Blossfeld and Stockmann, 1999, p. 9). The question is, however, whether this advantage of on-the-job training for low skilled workers at labour market entry remains over the life course. Since on-the-job training is very firm specific, it may be irrelevant in case of inter-firm mobility and become obsolete due to rapidly changing skills requirements (De Grip and Van Loo, 2002). Vocational training organized in initial education via schools or apprenticeships, on the other hand, is much more standardized and, therefore, the acquired skills have high levels of consistency across firms or even industries. Moreover, these skills are transferable across employers and are recognized as such (Eyraud *et al.*, 1990). Further research should provide more insight in the effects of different education and training systems and, accordingly, different institutional contexts on the (long term) risks of skill obsolescence of low-skilled workers.

## Notes

1. We included the voluntary part-time workers in this measure of job quality in order to have a dichotomy between involuntary part-time jobs and jobs that match the preferences of the workers.
2. Of course, in most countries there is a co-existence of both ILM and OLM contexts. However, the relative importance of either context varies between countries to such an extent that in most countries one is prevalent in the economy (Eyraud *et al.*, 1990). Marsden's approach, tailored for international comparative research, therefore assumes that either market system can be treated as a systematic property of national economies. For the sake of conceptual clarity, Gangl (2001) prefers to use the term “arrangement”, as this term could better be understood as an ideal type representing an underlying continuum.
3. Obviously, also the countries that joined in European Union in 2004 were not included.
4. This implies that (low-skilled) young workers who are trained in government programmes are included in the analysis, since their training activities normally take place once they have left initial education (often after a certain period in which they were not successful in finding a stable and secure job). Moreover, the “jobs” of people in government programmes are generally considered as real employment rather than educational participation.
5. Since the occupational information collected in the period 1988-1991 does not provide sufficient comparability between countries, the analysis of being employed in a non-elementary job is restricted to the period 1992-1997.
6. Since our data are split into different sets of dependent variables by Eurostat, we are not able to take account of the covariance in the error terms that may occur in as far there is a trade-off between the different aspects of job quality considered. However, there are no theoretical arguments for such a trade-off.
7. The results of the cluster analysis display some national differences within each country cluster, but these country differences are minor to the clear contrasts between ILM, OLM and

Southern European countries. Therefore, we ignore this within-cluster cross-country variation in the empirical analysis of this article.

8. A comparison of a model with and a model without controlling for the macro-level effect of youth unemployment does not give any hint of a possible selection bias, as both models largely report the same effects for the variables level of education and institutional context and their statistical interaction.

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