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Comparative Analysis of Transitions from Education to Work in Europe

**The integration of young people into the labour market
within the European Union:
The role of institutional settings**

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WORKING PAPERS

Abstract

In this paper we investigate to what extent the labour market integration of young people within the European Union is influenced by national institutional contexts of both the employment system and the education/training system. For this purpose, data of the 1992-1997 European Community Labour Force Surveys (ECLFS) were used. We looked at three important indicators that capture the (lack of) labour market integration of youngsters: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. To estimate systematic variation between countries, multilevel analysis was applied in which variation within countries between individuals and variation within countries between periods is statistically controlled for. The results of this analysis showed that the labour market integration of young people within the European Union is indeed systematically structured by national institutional contexts. With regard to national institutional factors concerning labour market regulation, it is primarily the employment protection of the existing labour force that has a damaging effect on the integration process of youngsters. In countries with less strict employment protection legislation, school-leavers find a (stable) labour market position more easily than in countries with highly strict employment protection legislation. With regard to institutional characteristics of education systems, it is clear that the presence of a dual system - as a workplace-based vocational training system - improves the transition from school to work in a country.

1. Introduction

The transition from school to work has been a major research topic over the last ten years (for an overview, see Hannan and Werquin (1999) or Ryan (1999)). The main reason for this attention is the occurrence of persistently high youth unemployment rates since the eighties. A considerable proportion of young people is unemployed in the period after leaving school, and even the youngsters who immediately find a job, often work in vulnerable positions. This makes the integration process of young people into the labour market far from smooth and the transition from school to work can, therefore, be characterised as a turbulent and uncertain period for young people (OECD, 1998: 111). Furthermore, growing globalisation and competitiveness, in combination with rapid technological changes, have made education and training of increasing importance in the social stratification process and as an economic growth factor.

The underlying sources of problems faced by young people during the transition from school to work in different national education and employment structures are difficult to disentangle. This creates the need for an institutional framework that helps to determine the factors affecting success and failure in the labour market integration of youngsters (Kerckhoff, 1995). To address this issue, we investigate in this paper the way in which national institutional settings affect the integration process of young people into the labour market within the European Union. These institutional settings refer to national institutional contexts with regard to both the employment system and the education/training system. The aim is to highlight similarities and differences in the integration patterns between the various countries and to relate these to differences in national institutional contexts.

For this purpose, the European Community Labour Force Survey (ECLFS) data set is used. This cross-sectional data set combines the original Labour Force Surveys (LFS) as conducted by the individual Member States. This pooled data set, which consists of information covering the period 1992-1997, is the best one available for the moment to determine differences in school-to-work patterns in Europe. On the basis of this data set we apply multilevel analysis, which allows us to control for structural effects in the integration process with regard to both institutional differences between countries and changing labour market circumstances in terms of business cycle effects.

The remaining part of this paper is organised as follows. Section 2 contains the theoretical background of the paper, in which a set of hypotheses is formulated about the impact of national institutional arrangements on the integration process of young people into the labour market. In section 3 we discuss the research design of the paper. The formulated hypotheses are then empirically tested in section 4. The paper ends with a concluding section that summarises and discusses the most important findings of the paper.

2. Theoretical background

2.1 National institutional contexts related to industrial relations

Insiders versus outsiders

The integration of youngsters into the labour market is largely dependent on the extent to which the labour market absorbs school-leavers. The insider-outsider theory appears very promising and interesting in this respect (Lindbeck and Snower, 1988). As its name indicates, this theory relies on the distinction between 'insiders' and 'outsiders'. Employed workers are insiders and unemployed workers are, in general, referred to as outsiders. However, a specific group of outsiders consists of labour market entrants (De Vreyer *et al.*, 2000), since school-leavers without any work experience have to compete for available jobs with those who have already gained a position on the labour market. According to the insider-outsider theory, wage bargaining takes place between insiders and employers. Outsiders play no role in this process. The main interest of insiders is to stay employed. They set their wage strategically so that their continued employment is assumed. The employment of outsiders has no priority. As long as the economic system is not submitted to radical changes in social institutions or a big shock (such as an oil crisis or a major war), insiders bargain so as to get the highest wage level possible without losing their employed position. As a consequence, nothing changes and outsiders remain unemployed.

The level at which wage bargaining takes place determines the strength of the insider-outsider dichotomy and, therefore, the degree of youth labour market integration. At one extreme, wage bargaining is called centralised when employees and employers are organised into nation wide unions, where the rate of unionisation of both employers and employees is high and where wages are negotiated at the central level. At the other extreme, firms and employees can negotiate on wages at the level of the individual enterprise. In that case, the wage bargaining structure is labelled as decentralised. Lastly, wage bargaining is called intermediately centralised when wage negotiations occur at industry level.

Calmfors and Driffill (1988) have argued that the unemployment levels of countries - and implicitly the insider-outsider dichotomy - are lowest at both extremes of the centralisation continuum. Countries characterised by intermediately centralised economies, however, have to deal with higher unemployment rates. This phenomenon is known as the hump-shaped relationship between the degree of centralisation and unemployment.

The arguments for this relationship are sought in imperfectly competitive labour markets. Both in decentralised and centralised wage bargaining systems, the agents involved in the bargaining process face a very adverse trade-off between the real wage and employment, but for different reasons. The trade-off is adverse for decentralised unions, because if they set a high money wage this will be passed on in the price of the firm. The price increase will lead to a substantial loss of demand for the firm's products and consequently will lead to lower employment at the firm. Together, these factors will induce unions that operate in decentralised wage bargaining systems to set moderate wage demands. In a centralised wage bargaining structure on the other hand, high money (nominal) wages set by unions will not lead to equally high real wage increases, because of the high degree of unionisation. This high degree of unionisation will lead to high money wages throughout the whole economy and, consequently, to high price changes throughout the whole economy, too. The only effect that setting high money wages will have is a deterioration of the international competitive position. Again, there is no incentive for unions to set high money wages.

The contrary applies to unions operating in intermediately centralised wage bargaining systems. High money wages set by unions will lead to only a limited loss of demand for the products of the firm if this firm passes on the wage increases to the product prices, because all firms within the sector have to increase their prices. The other argument which would induce unions to set moderate wage demands - *i.e.* high nominal wage demands will not lead to high real wage increases, because of the general price increases - does not apply or only partially applies to the intermediate case, too. Only prices within the same sector will rise, but not those in other sectors, which will make real wage increases nearly as high as nominal wage increases. Therefore, in intermediately centralised wage bargaining systems, there is indeed an incentive to set high wage demands.

In previous empirical results, however, there is little systematic evidence of a hump-shaped relationship between the degree of centralisation of the wage bargaining process and the level of unemployment (OECD, 1997: Chapter 3). Instead, some authors (for example Soskice, 1990; Layard, Nickell and Jackman, 1991) challenged Calmfors and Drifill's conclusions and proposed a negative linear relationship. Their argument is that the favourable performance effects of increasing centralisation that arise from taking the macroeconomic results of any agreement on wages into consideration are stronger than the adverse effects from imperfect product market competition. In addition, Soskice (1990) concentrates on co-ordination instead of centralisation. He argues that it is not the locus of the formal wage bargaining that is relevant, but the degree of consensus between the agents in the collective bargaining process. In this way, co-ordination and centralisation may be seen as two different paths to achieve the same goal. Therefore, our first hypothesis is:

Hypothesis 1: The more centralised/co-ordinated the wage bargaining structure is in a country, the more likely it is that within this country young people are integrated into the labour market.

Irrespective of the degree of centralisation/co-ordination of the wage bargaining structure, it is assumed that the degree to which workers' wages are determined by collective bargaining or the degree to which workers are unionised in a country is important. In principle, union power is insider power. Therefore, we expect that the power of unions is likely to play an important role in the integration process of youngsters into the labour market:

Hypothesis 2: The more power unions have in a country, the less likely it is that within this country young people are integrated into the labour market.

Apart from wage bargaining, insiders negotiate about employment protection. Employment protection refers to regulations concerning both hiring and firing and is intended to reduce economic uncertainty of workers by enhancing job security (OECD, 1999: Chapter 2). In general, insiders try to increase their job security by fixing more firmly a number of employment conditions (such as period of notice, severance pay, seniority) in the law and/or collective labour agreements. In particular, seniority is a major criterion. Usually, this principle prohibits the firing of settled employees and youngsters, who are the last employees that entered the firm, will be the first to be fired if the firm needs to do so. This is called the principle of last in first out (LIFO) (Oswald, 1987). For outsiders, employment protection tends to trap them in long-term unemployment or in an unstable position shifting between unemployment and temporary jobs. This is especially true for school-leavers. From this point of view, employment protection legislation undermines the chances of getting a stable labour market position for young people. This leads to the following hypothesis:

Hypothesis 3: The stricter the employment protection legislation is in a country, the less likely it is that within this country young people are integrated into the labour market.

2.2 National institutional contexts related to the education and training system

Vocational specificity

Apart from national differences related to labour market regulation, cross-country variation with regard to institutional arrangements in education and training systems affect the integration process of young people into the labour market. First of all, 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 (Maurice, Sellier and Silvestre, 1982; Hannan, Raffe and Smyth, 1997; Müller and Shavit, 1998). Basically, this debate refers to the extent to which education systems differentiate between academic 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 on the job. In other countries, occupation-specific skills are taught in the education and training system. Here, the link between the education/training system and the employment system is strong. The way, in which this close link between the education/training system and the employment system is institutionalised, may differ. In some cases, 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.

In vocational programmes that are mainly occupation-specific - irrespective of how these programmes are institutionalised in the education system -, school-leavers have few transferable skills, which prepares them for a few, particular jobs. For employers these school-leavers are very attractive to hire, since the curricula of vocational programmes already supply them with the skills required for the job, which reduces the training costs for employers. Consequently, it is expected that in countries that provide a differentiated system of vocational education, the association between education and labour market outcomes is tighter, and, subsequently, young people are more easily integrated into the labour market than in countries that offer primarily general education. This leads to the following hypothesis:

Hypothesis 4: The more vocationally specific the education system is within a country, the more likely it is that within this country young people are integrated into the labour market.

Standardisation and stratification

The school-to-work transition in countries also differs according to the standardisation of educational provision and the stratification of educational opportunities within the education system (Allmendinger, 1989; Müller and Shavit, 1998). Standardisation concerns the degree to which the quality of education meets the same nation-wide standards - for example with regard to teacher training, school budgets, curricula and uniformity of examination/certification terms. Stratification has to do with the extent and form of tracking at the secondary educational level (see Müller and Shavit, 1998: 50). In highly stratified education systems, pupils are divided into separate tracks very early in their educational careers. Furthermore, in these systems it is difficult to switch between tracks, since the tracks are so diverse. On the other hand, in countries characterised by a low degree of stratification, the diversity between different tracks is limited, which results in high mobility between tracks.

It is assumed that the relationship between the educational qualifications and labour market outcomes of individuals is tighter in countries that have a highly standardised and stratified

education system. The reason for it is that high standardisation and stratification make screening by employers easier. High standardisation makes the qualities of school-leavers simple to interpret and compare. High stratification leads to school-leavers having specific skills. Once again, this makes screening by employers easier, because in that situation employers know exactly what kind of school-leaver they need to accept for the specific vacancy they have. In the absence of high standardisation and high stratification, it will be more difficult for employers to screen the best qualified individual for their vacancies. Therefore, it is expected that a high degree of standardisation and stratification of the education system facilitate the integration process of young people into the labour market. Since in all European countries the education/training systems are highly standardised - in contrast with, for instance, the United States - (Hannan *et al.*, 1999; Müller and Shavit, 1998), we only formulate a hypothesis with respect to the stratification of the education system:

Hypothesis 5: The more stratified the education system is within a country, the more likely it is that within this country young people are integrated into the labour market

Selectivity

Lastly, the selectivity of the education system affects transition processes from school to work. In this paper, selectivity refers to (explicit state policies to) expand or limit the education system. In general, educational participation has grown everywhere in Europe in recent decades, but from different starting points, in different ways, and with different results (Müller and Wolbers, 1999). Educational growth has been driven by various considerations. First of all, the increase in educational participation has been desired ideologically in order to reduce the unequal distribution of educational attainment between social groups (Shavit and Blossfeld, 1993). Secondly, due to rapid technological changes, more and more occupations on the labour market require higher skill levels (Denison, 1962). Thirdly, rapid educational expansion has been an answer to recent social problems, such as youth unemployment, that keep young people out of the labour force - and in the education system - as long as possible (Hannan and Werquin, 1999).

In order to enhance educational expansion, institutional reforms of the education system have been implemented almost everywhere. It is assumed that the existing national traditions in the set-up of educational institutions and in the provision of education have affected the course of educational reforms and, subsequently, the degree of educational expansion (Müller and Wolbers, 1999: 20). In particular, the (non) existence of an established tradition of vocational education has determined the course of reforms. Especially in countries that have no tradition of vocational orientation in secondary education, the need and pressure for an extensive system of tertiary education are large, and for these countries one should therefore assume a strong growth in educational participation at the tertiary level.

Excessive expansion of tertiary education has detrimental consequences for labour market outcomes (Boudon, 1974). At the level of individuals, it forces young people to obtain ever more and higher levels of education, just in order to stay in a favourable position in the job queue (Thurow, 1975). At the societal level, high enrolment rates in tertiary education may lead to credential inflation. That is, if there are more highly educated school-leavers than the labour market can absorb, the labour market value of credentials declines (Brauns, Müller and Steinmann, 1997; Gangl and Brauns, 1999; Wolbers, De Graaf and Ultee, 2001). In that situation, a number of highly educated individuals has to accept jobs for which the required level of education is lower than the actual attained level ('over-education'). In addition, the oversupply of highly educated school-leavers may lead to unemployment or employment exclusion among them, especially among the least qualified. Therefore, it is expected that a less selective education system, characterised by a large growth of educational participation at the tertiary level, hinders the integration of youngsters into the labour market. Or formulated the other way around:

Hypothesis 6: The more selective the education system is in a country, the more likely it is that within this country young people are integrated into the labour market.

3. Research design

3.1 Data

In this paper, we use the European Community Labour Force Survey (ECLFS) data set to determine the integration of young people into the labour market. This cross-sectional data set is a combination of the original Labour Force Surveys (LFS) as conducted by the individual countries. Together they form the ECLFS data set, which is the best available data set for the moment to address the issue of the transition from education to work in Europe. The data set is attractive for the large sample size, the standardised survey design and the wide range of characteristics related to current labour market participation and employment. The ECLFS is an annual data set and we make use of data collected during spring time in the period 1992-1997 (due to their recent membership of the European Union, we only have information for Austria, Finland and Sweden for the last three years).

To describe the transition from school to work, we have to define school-leavers. Since the ECLFS data set is a cross-sectional data set describing current labour market participation, individual trajectories into the labour market are not captured by the data. In this paper we therefore adopt an indirect approach to identify school-leavers. First of all, we know the current employment status of all respondents. In addition, in the available data set a retrospective question is included asking the respondent to give his or her employment status one year before. By combining the information originating from these two questions, we select school-leavers out of the total labour force.

A drawback of this approach is that it does not per se follow that the respondents in question have permanently left initial education. It might well be that youngsters leave the education system temporarily and return later. Consequently, some individuals that are considered here as school-leavers are not school-leavers in the strict sense. More important, there is quite a large proportion of youngsters combining schooling and paid employment (Welters and Wolbers, 1999). The ECLFS data set is based on regular ILO conventions and definitions of the labour force (ILO, 1990). This implies that individuals who are currently both in employment and in initial education or training (*i.e.* working students and youngsters participating in apprenticeship

systems) are counted as employed, whereas their main activity actually is student. Therefore, a small modification to the ILO definition is applied in this paper. All people who are employed, but who are in initial education or training at the same time, are excluded from the labour force.

3.2 Measurement of variables

Independent variables at the individual level

We distinguish two types of school-leavers: recent and less recent school-leavers. This distinction is made, because the two types of school-leavers are at different stages of the transition process, which surely has consequences for the extent to which the groups are integrated into the labour market. A recent school-leaver is defined as someone who was in initial education or training one year before the survey and who at the time of the survey is no longer a student. To define the group of less recent school-leavers, we use the typical graduation age of students, which is the average age of the group of recent school-leavers during the survey minus one year. We compute this average graduation age for each educational level and for each country. Taking this graduation age into account, a less recent school-leaver is defined as someone who, given his or her educational level and country, is aged between one and five years older than the graduation age of a school-leaver having the same educational level and living in the same country. This definition implies that we compare throughout the various countries, individuals who have (potentially) equal labour market experience, which is of crucial importance if one wants to compare national differences in the integration process of youngsters into the labour market.

The differentiation of the various kinds of qualification levels and the identification of similar levels across countries constitute a difficult task, because of the different structures of the education systems. In particular, it is problematic to establish equivalencies among different tertiary level certificates in different countries. Some countries classify certain programmes as secondary level education, whereas others regard them as tertiary level education. For the current analysis, therefore, we use a broad rather than a narrow definition of educational levels. We distinguish three levels of education, namely the lower, middle and upper part of the educational range, based on the seven-level International Standard Classification of Education (ISCED) (UNESCO, 1975). The first group consists of persons with a basic education (often compulsory education) up to a lower secondary education at most (ISCED 0-2). The second group consists of youngsters having attained at most upper secondary education (ISCED 3). The third group is made up of individuals with all kinds of tertiary education (non-university tertiary education as well as university-based tertiary education) (ISCED 5-7).

Gender differences with respect to the integration process are investigated by distinguishing men and women in the analysis.

Independent variables at the contextual level

To measure the level of centralisation and co-ordination of the wage bargaining structure in a country, we created three distinct categories. Table 1 shows that Austria and Germany are defined as countries with a centralised/co-ordinated wage bargaining system. Ireland and the United Kingdom are classified as decentralised/unco-ordinated. All other countries within the European Union represent systems in which wage bargaining takes place at the intermediate level. The power of trade unions is operationalised as the percentage of workers who are members of a trade union. Trade union membership within the European Union is most prevalent in the Scandinavian countries. In France and Spain, on the other hand, union density is rather low. Employment protection, measured by the overall strictness of employment protection

legislation, is by far the strictest in the South European countries. In Ireland and the United Kingdom, however, the existing labour force has relatively little protection against dismissal and other forms of job insecurity.

Table 1. National institutional contexts with regard to the employment system

Country	wage bargaining structure ^a	union density (%) ^b	employment protection ^c
Austria (AT)	3	42	2.2
Belgium (BE)	2	54	2.6
Germany (DE)	3	29	2.9
Denmark (DK)	2	76	1.7
Spain (ES)	2	19	3.4
Finland (FI)	2	81	2.1
France (FR)	2	9	2.9
Greece (GR)	2	24	3.6
Ireland (IE)	1	49	0.9
Italy (IT)	2	39	3.7
Luxembourg (LU)	2	43	2.5
Netherlands (NL)	2	26	2.4
Portugal (PT)	2	32	3.9
Sweden (SE)	2	91	2.4
United Kingdom (UK)	1	34	0.5

^a Wage bargaining structure is a combined indicator that measures the degree of centralisation and co-ordination of the wage bargaining system in a country. The values are based on data for 1994, as reported in OECD Employment Outlook of 1997 (OECD, 1997: Table 3.3). A '3' indicates a centralised/co-ordinated wage bargaining structure, a '2' is assigned to countries with an intermediate wage bargaining structure, and a '1' refers to countries where wage bargaining is decentralised/unco-ordinated. The value for Ireland is based on Nickell and Layard (1997). Greece and Luxembourg are, for lack of data, assigned to the European Union average.

^b Trade union density is based on the rates of 1994, as published in OECD Employment Outlook of 1997 (OECD 1997: Table 3.3). The figures for Greece and Ireland stem from Ebbinghaus and Visser (1999) and are the rates for 1995. The union density rate for Luxembourg is the unweighted average of the other countries.

^c Employment protection is measured by the overall strictness of employment protection legislation (EPL) in a country, as published in OECD Employment Outlook of 1999 (OECD, 1999: Table 2.5). This summary indicator refers to protection with regard to both regular and temporary employment. The figures used here are the average of the scores for the late 1980s and late 1990s. The figure for Luxembourg is computed as the unweighted average of all other countries, since there is no data available for this country.

In Table 2, the countries are classified by the institutional characteristics with regard to their education system. The vocational specificity of the education system is operationalised by two indicators. First of all, it is measured by the percentage of upper secondary students enrolled in vocational education. Especially in (countries around) Germany and the Scandinavian countries, secondary education is occupation-oriented, whereas in Southern Europe and the United Kingdom and Ireland, the general track is predominant within secondary education. In addition, we make a distinction between countries that have institutionalised vocational training by means of a separate system ('dual system'), and countries in which vocational training is mainly school-based. Countries that have in our view a substantial dual system are Austria, Germany, Denmark, Luxembourg and the Netherlands. Related to the vocational specificity is the stratification of the education system. In this paper, we define the secondary education systems of Austria, Germany, Luxembourg and the Netherlands as highly stratified, in the sense that pupils are differentiated into tracks very early in their educational careers (at the end of primary education already). The South European and Scandinavian countries, on the other hand,

represent countries with a low degree of stratification of secondary education. The selectivity of the education system is operationalised as the percentage of the population that has attained tertiary education. It is assumed that the education system is more selective in countries where the attainment of tertiary education is lower. Table 2 shows that Austria, Italy and Portugal have the lowest proportions of persons with higher education. The highest percentages can be found in Belgium, Sweden, Ireland, Denmark and Spain.

Table 2. National institutional contexts with regard to the education system

Country	vocational specificity sec. educ. (%) ^a	dual system ^b	stratification sec. educ. ^c	tertiary education qual. (%) ^d
Austria (AT)	76	1	2	8
Belgium (BE)	59	0	1	29
Germany (DE)	80	1	2	21
Denmark (DK)	56	1	0	25
Spain (ES)	41	0	1	24
Finland (FI)	54	0	0	22
France (FR)	54	0	1	23
Greece (GR)	21	0	1	18
Ireland (IE)	0	0	0	27
Italy (IT)	67	0	1	8
Luxembourg (LU)	54	1	2	18
Netherlands (NL)	70	1	2	23
Portugal (PT)	14	0	0	12
Sweden (SE)	76	0	0	26
United Kingdom (UK)	58	0	0	23

^a Vocational specificity of secondary education is measured as the percentage of upper secondary students enrolled in public and private vocational education (including apprenticeships). The figures were reported in OECD Education at a Glance 1995 (OECD, 1995: Table P03(B)). The percentages for Greece, Ireland, Luxembourg, Portugal and Sweden are based on Figure 9 of Müller and Wolbers (1999).

^b A '1' represents countries with an apprenticeship system in which learning and working are combined ('dual system'). All other countries are assigned to category '0', which indicates the absence of an extensive dual system.

^c Stratification of secondary education is based on Table 1.1.a of Müller and Shavit (1998). It is coded as follows: a '0' represents the prevalence of comprehensive schools, which may or may not practise curricular and/or ability-based tracking. A '1' represents a prevalence of between-school tracking such that those on the academic track usually attend separate schools from those on the lower or vocational track. A '2' represents an extreme form of stratification with very early differentiation among a multitude of programmes. For Austria, Belgium, Denmark, Spain, Finland, Greece, Luxembourg and Portugal, all of which are countries that are missing in Müller and Shavit (1998), we took the information on the stratification of secondary education as reported in Hannan *et al.* (1999) and OECD (1995).

^d Percentage of the population (25-59 years of age) that has attained any degree in tertiary education (ISCED5-7) is used as an indicator for the selectivity of the education system. The figures originate from Figure 2 of Müller and Wolbers (1999).

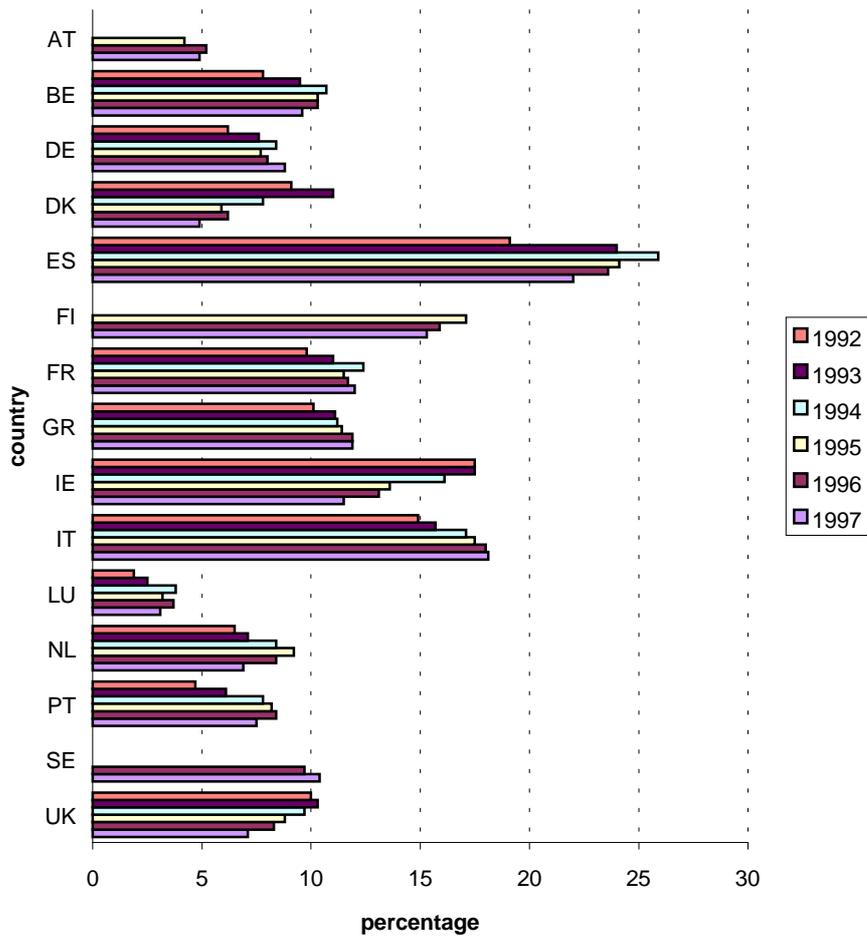


Figure 1. Aggregate unemployment rates, by country and period
 source: pooled ECLFS-data 1992-1997

Some countries may go through a recession, whereas others can be in the middle of an upturn at the same time. To prevent these differences in the general labour market situation playing a distorting role in determining the impact of national institutional contexts, the effect of the business cycle has to be taken into account. Therefore, we include aggregate unemployment rates as a contextual variable in the analysis. The unemployment rates are based on the unemployed labour force aged between 15 and 59 years. The cross-country variation of trends over the period 1992-1997 is presented in Figure 1. From this figure, it can be observed that countries are indeed at different stages of the business cycle. In countries such as Germany, we find a rather low, but increasing level of unemployment. In countries such as Ireland, on the other hand, a clear decrease in the overall unemployment rate can be observed. Other countries show a fluctuating trend over time. In the Netherlands, for instance, we observe a rising percentage of unemployed people for the first years, followed by a decline in the later years.

Dependent variables

On the basis of the ECLFS data set, we analyse three aspects of the (lack of) integration of young people into the labour market: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. Although these dependent variables do not give a full insight into the integration process of school-leavers into the labour market, they give at least a good reflection. This is due to the rather limited availability of adequate dependent variables with regard to the transition from school to work in the ECLFS data set.

As mentioned above, we apply a modified ILO definition to determine the labour force. According to this definition, the labour force consists of any individuals who 1) have paid work (even for as little as one hour) or 2) are not working, but have a job from which they are absent at the moment or 3) are looking for work and can start working within two weeks. Deviating from the standard ILO definition, all individuals currently participating in initial education or training are excluded from the labour force. The unemployed labour force is composed of individuals who belong to condition 3). As can be seen from the upper panel of Figure 2, unemployment among school-leavers differs a great deal within the European Union. In Italy and Spain, around 40 percent of all school-leavers is unemployed. Also in Greece, a large proportion of young people entering the labour market is unemployed (30 percent). In Luxembourg, Austria, the Netherlands and Germany, on the other hand, less than 10 percent of all school-leavers is without a job. All other countries take more or less a position in the middle, and the average unemployment rate within the European Union is 21 percent.

The permanency of a job is measured by making the distinction between permanent and temporary jobs. A temporary position refers to a job with a work contract of limited duration. In the middle panel of Figure 2, the proportions of school-leavers with a temporary job across the countries of the European Union are displayed. Spain certainly has the top-rank position. In this country, almost three quarters of all workers who left initial education less than five years ago, do not have a permanent contract. This finding implies that in Spain the integration process of young people is not only hindered by a large number of individuals who cannot find a job - as shown in the upper panel of Figure 2 -, but even a major part of the youngsters who are employed, have a precarious labour market position in the sense that their contract is temporary. Finland, Sweden, France and Portugal have a relatively large proportion of school-leavers with a temporary contract as well. All other countries show percentages that are below the average of the European Union. Only in Luxembourg (six percent) and Austria (nine percent), less than one tenth of the employed school-leavers has a temporary work contract.

Due to differences between countries regarding a full-time working week, the full-time/part-time distinction is based on the subjective evaluation of the respondent and not on the number of hours actually worked. It appears that throughout the European Union, the vast majority of employed school-leavers has found a full-time job (see the lower panel of Figure 2). On average, 11 percent of all employed youngsters have a part-time job. In some countries, however, the share of youngsters who have a part-time job is substantially higher. These countries are Sweden (33 percent) and the Netherlands (23 percent). In Luxembourg and Portugal, on the other hand, only four percent of all school-leavers are working in a part-time job.

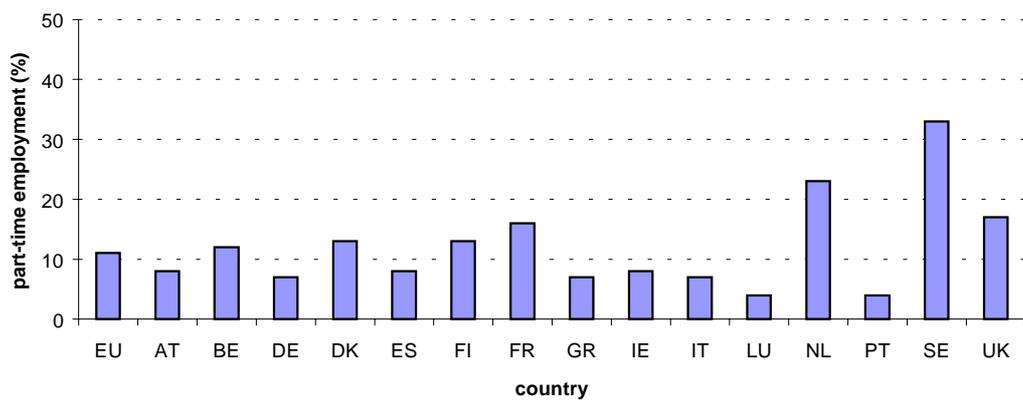
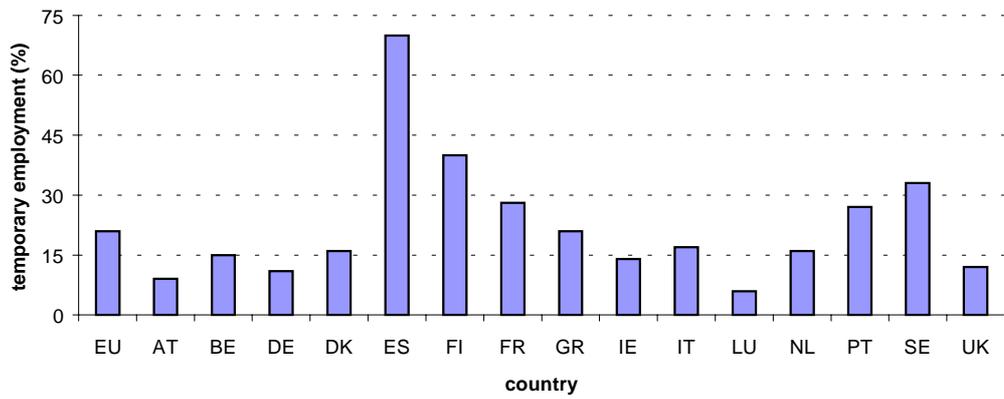
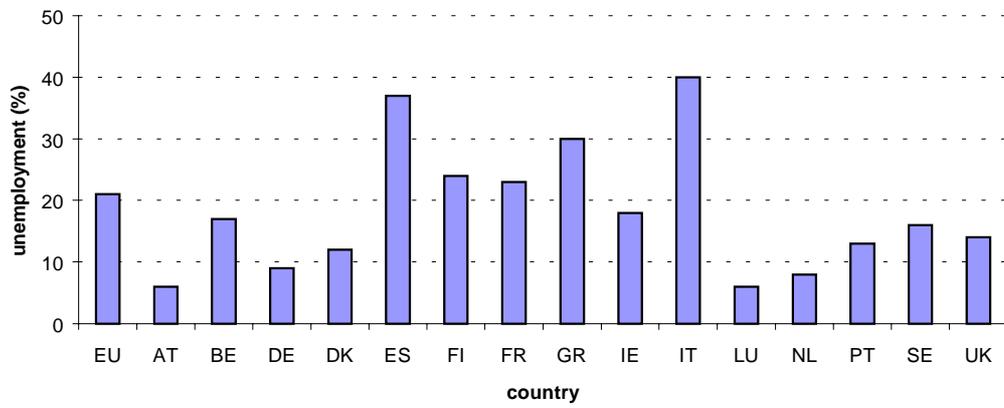


Figure 2. Cross-country variation in the labour market integration of young people
 source: pooled ECLFS-data 1992-1997

3.3 Method of analysis

The method used for estimating cross-country variation in the integration process of youngsters into the labour market is multilevel analysis (Bryk and Raudenbush, 1992; Goldstein, 1995; Longford, 1993). We distinguish three levels of analysis: the school-leaver level, the period level and the country level. Because of this hierarchical structure in the data, it is possible to adequately estimate cross-country variation, since variation within countries between individuals and variation within countries between periods is statistically controlled for in the analysis. In total, we estimate six separate models in which only the intercept varies randomly ('random intercept model'). In the baseline model we start with a description of the 'gross' between-country variation. This gross variation is in principal the same as the observed differences in labour market outcomes between countries. In the subsequent models, we try to explain these gross differences between countries by taking into account the effects of the composition of the population of school-leavers (with respect to level of education, gender and type of school-leaver), the general labour market situation and institutional contexts with regard to both the employment system and the education system. This gives us insight in the 'net' cross-country variation.

4. Results

Odds of being unemployed

Table 3 presents the results of multilevel analysis regarding the odds of being unemployed. Model 0 gives an estimation of the systematic variation between countries ('between-country variation') and the variation within countries between different periods ('within-country variation'). Due to the dichotomous nature of the dependent variable, the variation at the individual level cannot be estimated and, therefore, is fixed at the value 1. Consequently, we are not able to estimate the extent to which this variation can be explained by the predictors in the different models. Nor can the variation between countries or between periods be expressed as a proportion of the total variance. The different variance components are displayed at the bottom of the table. The variance component of model 0 shows the gross variation between countries. The analysis shows that there are significant differences between countries in the odds of becoming unemployed (between-country variation is 0.546). There is also a significant variation within countries between different periods (0.021), but these differences are rather small compared to the systematic variation between countries.

The introduction of individual characteristics in model 1 shows that the odds of being unemployed is significantly influenced by the personal background of school-leavers. For recent school-leavers, the odds of being unemployed versus being employed is two times larger than the corresponding odds for less recent school-leavers ($e^{0.835} = 2.305$). Those who have left education at the ISCED0-2 level also have unfavourable opportunities on the labour market. Their odds of being unemployed are 2.413 ($= e^{0.881}$) higher than the odds for individuals who left education at the tertiary level (ISCED5-7). Those who left education at the intermediate level (ISCED3) hold an intermediate position. Furthermore, model 1 shows that women have a higher probability of being unemployed than men. The implied odds ratio is 1.169 ($= e^{0.156}$). Despite these effects, none of the individual characteristics seem to have an impact on the differences in youth unemployment rates between time periods or between countries. After all, the variance components at the country and period level in model 1 have hardly changed compared to those in the baseline model. This indicates that the differences between countries and within countries

between years are related to other factors than the compositional effects of the population of school-leavers in the different countries.

Table 3. Results of logistic 3-level analysis of being unemployed

Model	0	1	2	3	4	5
Intercept	-1.509***	-2.207***	-3.681***	-3.854***	-3.497***	-3.845***
Type of school-leaver						
Recent		0.835***	0.904***	0.908***	0.911***	0.911***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.881***	0.938***	0.936***	0.941***	0.937***
ISCED3		0.481***	0.507***	0.504***	0.507***	0.505***
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		0.156***	0.167***	0.168***	0.168***	0.168***
Aggregate unemployment rate (%)			0.121***	0.120***	0.119***	0.117***
Wage bargaining structure				-0.229		
Union density (%)				0.001		
Employment protection				0.231*		0.128
Vocational specificity sec. education (%)					0.003	
Dual system					-0.526*	-0.387**
Stratification sec. education					-0.001	
Tertiary education qualifications (%)					-0.008	
Variance components						
school-leaver level (N = 129,483)	1	1	1	1	1	1
period level (N = 80)	0.021***	0.029***	0.004**	0.005***	0.004**	0.004**
country level (N = 15)	0.546***	0.524***	0.165***	0.150***	0.184***	0.121***

* = p < 0.10; ** = p < 0.05; *** = p < 0.01 (two tailed tests; one tailed tests for country effects)

ref. = reference category

source: pooled ECLFS-data 1992-1997

Not surprisingly, the most important of these other factors is the general labour market situation. After controlling for the aggregate unemployment rate in model 2, the residual variance component decreases at the country level from 0.524 to 0.165 and at the period level from 0.029 to 0.004. In other words, around two thirds of the systematic differences between countries and almost 90 percent of the within-country variation can be statistically explained by differences in the general labour market situation. This means that the unemployment risk of school-leavers is primarily determined by general employment conditions, which also affect the rest of the labour force. Still, there are significant differences left, especially at the country level.

Model 3 shows that a small part of these remaining differences between countries can be explained by institutional characteristics of the employment system.¹ In countries that are characterised by strong employment protection of the existing labour force, school-leavers have a higher probability of being unemployed than in countries that are more open to newcomers. This corroborates hypothesis 3. There is no significant effect of the wage bargaining structure, although the sign is in the expected direction. Countries characterised by a centralised/co-ordinated wage bargaining structure seem to be more open for labour market entrants than decentralised/uncoordinated countries and, consequently, show lower youth unemployment rates. Furthermore, union density does not seem to have any effect at all on the likelihood of becoming unemployed for school-leavers.

In model 4, characteristics of the education system are included. The results are fairly straightforward. In countries with a substantial dual system, the odds of being unemployed for school-leavers is 0.591 ($e^{-0.526}$) times smaller than the corresponding odds in countries where the dual system is of little importance. This clearly supports hypothesis 5. However, note that the effect of the dual system is not *per se* related to the vocational specificity of the education system. As dual systems are by definition strongly vocational-oriented, it is important to distinguish between these two characteristics. The positive effect of having a dual system on the integration process of young people stems from the strong allocation function of the dual system: the institutionalised pathway it provides for young people to enter the labour market. The effect does not seem so much to be related to the more strongly vocational orientation of countries with a dual system, since the effect of the proportion of secondary education students enrolled in vocational programmes is not significant.

Model 5 integrates models 3 and 4 by taking up only the significant variables of the two models. We can see that both groups of institutional factors have their own independent effect on the unemployment risk of school-leavers, although the effect of employment protection becomes insignificant. Taken together, the two variables explain one third of the residual variance in model 2. In other words: part of the remaining country differences, after taking general labour market conditions into account, can be attributed to differences in institutional arrangements, namely employment protection legislation and the existence of a dual system. Both the differences between countries and the differences within countries between periods are for around 80 percent explained by the variables in the model.

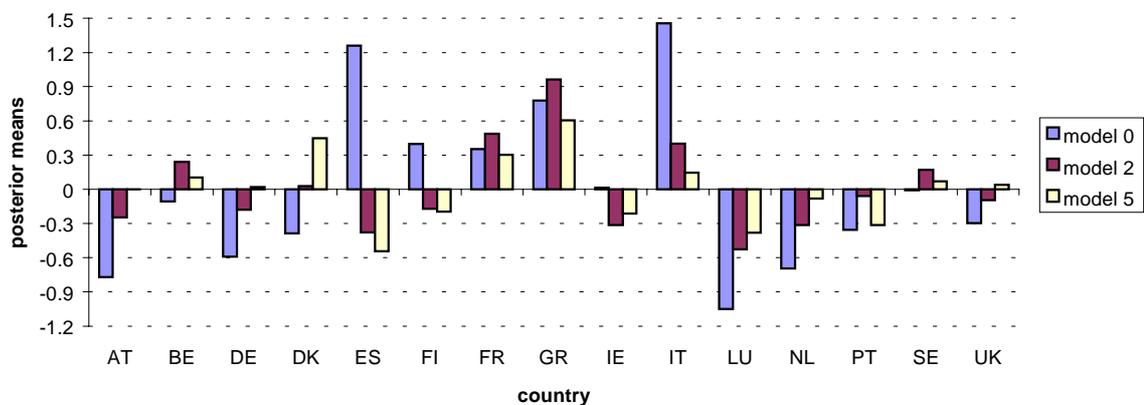


Figure 3. Cross-country performance with regard to being unemployed

source: pooled ECLFS-data 1992-1997

The effects become most clear if we look at so-called 'posterior means'. In principal, a posterior mean reflects the performance of a country as a deviation from the overall performance within the European Union, possibly after controlling for other variables. Figure 3 displays these posterior means for three different models. The posterior means of model 0 are similar to the percentages of the upper panel of Figure 2. However, these percentages are now expressed as deviations from the overall percentage within the European Union, in a somewhat different scale (an odds ratio scale). Nevertheless, the pattern of differences in performance between the countries follows exactly the description of the differences as presented earlier. We see high proportions in Italy, Spain and Greece, and low proportions in Luxembourg, Austria, the Netherlands and Germany. The posterior means of the countries in the other two models show what happens if certain variables are controlled for.

It can immediately be seen from Figure 3 that the deviations of the countries are almost fully explained by the variables in the model. The extremely high unemployment rate among school-leavers in Spain (see model 0), for example, is fully explained by the aggregate unemployment level in that country. Statistically controlled for that effect, unemployment among youngsters in Spain is even lower than the overall youth unemployment level within the European Union (see model 2). The same applies to Italy: the high unemployment rate for school-leavers in that country can fully be explained by an unfavourable general employment situation and by the national institutional context (high employment protection and the absence of a dual system). Greece seems to be an exception. The high unemployment rate among youngsters in that country can only partly be explained by the institutional factors in the model, given the fact that in model 5 Greece still shows a relatively large deviating posterior mean.

Conversely, the low unemployment rates among school-leavers in countries such as Austria, Germany, Luxembourg, the Netherlands and Denmark seem to be caused by favourable general labour market conditions and the existence of a dual system. Denmark also profits from less strict employment protection, while Austria and Germany seem to profit from the centralised/co-ordinated wage bargaining structure.

Odds of having a temporary job

Table 4 presents the results of the next analysis: the odds of having a temporary job. Model 0 again describes the variance between countries and within countries between years. The variation between countries seems larger than in the previous analysis: 0.943 as against 0.546 with respect to the odds of being unemployed.

In model 1 the individual characteristics are introduced into the analysis. The largest effect stems from the type of school-leaver. For recent school-leavers, the odds of having a temporary job are more than three times higher than for less recent school-leavers. Furthermore, low educated school-leavers (ISCED0-2) are more often in temporary positions than high educated ones (ISCED5-7). The implied odds ratio is 1.428 ($= e^{0.356}$). There is no effect of gender on the odds of having a temporary job. Both females and males run the same risk of having temporary work. None of these individual characteristics have any effect on the overall variation between countries.

Variation between countries with regard to the likelihood of school-leavers having a temporary job, is strongly affected by differences in the general labour market situation (see model 2). For each percentage of increase in a country's unemployment rate, the odds for school-leavers having a temporary job rise by 1.048 ($e^{0.047}$). Almost half of the original between-country variation can be explained by differences in the unemployment situation of the different countries. Interestingly, the within-country variation does not appear to be affected by the aggregate unemployment level (0.015 as compared to 0.013). Apparently, the variation over time is caused by other factors than the general labour market situation in a particular year.

In model 3 the institutional characteristics of the employment system are introduced into the model. As stated in hypothesis 5, in countries that are characterised by strict employment protection legislation, the likelihood of having a temporary job is higher than in countries with less strict employment protection legislation. The effects of the two other institutional contexts with regard to the employment system (wage bargaining structure and union density) also point in the expected direction, but these are not significant. In total, the institutional factors regarding the employment system cause a drop in the between-country variation from 0.526 in model 2 to 0.498 in model 3. This implies a reduction of some 5 percent.

Model 4 introduces the impact of different institutional contexts of the education system. From this model it emerges that in countries with a substantial dual system, the odds of having a temporary job for school-leavers is 0.444 ($e^{-0.812}$) times smaller than the corresponding odds in countries that do not have an extensive dual system. Again, this supports hypothesis 5. The other characteristics of the education system do not have a significant effect.

Table 4. Results of logistic 3-level analysis of having a temporary job

Model	0	1	2	3	4	5
Intercept	-1.273***	-1.505***	-2.102***	-2.956***	-2.457***	-2.643***
Type of school-leaver						
Recent		1.145***	1.219***	1.251***	1.214***	1.270***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.356***	0.388***	0.398***	0.392***	0.408***
ISCED3		0.027	0.036*	0.042*	0.038*	0.044**
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		0.000	-0.001	0.000	-0.001	0.000
Aggregate unemployment rate (%)			0.047***	0.046***	0.047***	0.047***
Wage bargaining structure				-0.315		
Union density (%)				0.006		
Employment protection				0.478**		0.275*
Vocational specificity sec. education (%)					0.005	
Dual system					-0.812*	-0.618*
Stratification sec. education					-0.028	
Tertiary education qualifications (%)					0.018	
Variance components						
school-leaver level (N = 83,357)	1	1	1	1	1	1
period level (N = 79)	0.013***	0.013***	0.015***	0.018***	0.016***	0.016***
country level (N = 15)	0.943***	0.936***	0.526***	0.498***	0.569***	0.426***

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests; one tailed tests for country effects)

ref. = reference category

source: pooled ECLFS-data 1992-1997

The last model (model 5) again includes the significant effects of employment protection and the existence of a dual system. These variables explain somewhat more than half of the original between-country variation. This means that there are still significant differences left unexplained. Figure 4 shows this for each country separately. In the figure, one can clearly see the huge differences in the gross performance between countries with regard to school-leavers having a temporary job. Spain has a very high score - indicating a high proportion of temporary employment - and Luxembourg, on the other hand, a very low one. The figure also shows that the disadvantageous position of Spain can partly be ascribed to its bad labour market circumstances in general, as well as its high degree of employment protection. However, these factors do not explain the relatively high score of Finland, nor the relatively low score of Luxembourg. It seems that for some countries (for example Austria, Germany and Portugal), the model does a good job in explaining the country's position, whereas for other countries (for

instance Belgium, Finland, Ireland and Luxembourg) the model does not explain the proportion of school-leavers having a temporary job very well.

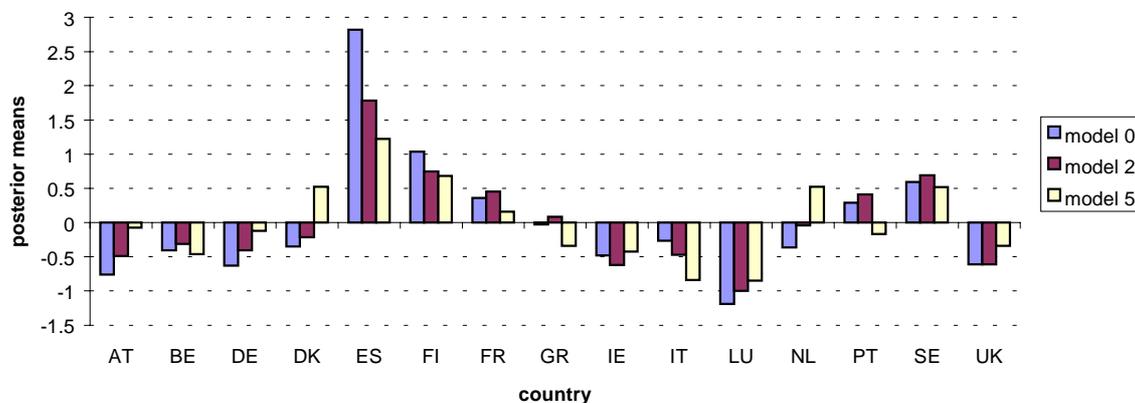


Figure 4. Cross-country performance with regard to having a temporary job
source: pooled ECLFS-data 1992-1997

Odds of having a part-time job

The final analysis relates to the odds of having a part-time job for school-leavers (see Table 5). Model 0 indicates that there are significant differences between countries. The model also shows significant variation between different time periods within a country, but this variation is small compared to the cross-country variation (0.027 versus 0.606).

All individual characteristics in model 1 have a significant effect. Not surprisingly, female school-leavers have a much larger likelihood of having part-time work than their male counterparts. For women, the odds of having a part-time versus full-time job is three-and-a-half times higher than the corresponding odds for men ($e^{1.240} = 3.456$). Similarly, recent school-leavers run a two times larger risk of having part-time work than less recent school-leavers ($e^{0.732} = 2.079$). Finally, the level of education determines the individual chances of having part-time work: the higher the level of education, the lower the probability of having a part-time job.

The general labour market situation in a country does not relate in any way to that country's proportion of school-leavers having part-time work (model 2). The small increase in the between-country variation between model 1 and model 2 indicates that adding the aggregate unemployment rate to the model even disimproves the model fit.

Table 5. Results of logistic 3-level analysis of having a part-time job

Model	0	1	2	3	4	5
Intercept	-2.022***	-3.193***	-3.424***	-3.420***	-5.891***	-6.027***
Type of school-leaver						
Recent		0.732***	0.728***	0.736***	0.745***	0.737***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.839***	0.833***	0.847***	0.850***	0.842***
ISCED3		0.335***	0.332***	0.335***	0.336***	0.331***
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		1.240***	1.232***	1.248***	1.250***	1.237***
Aggregate unemployment rate (%)			0.023	0.038**	0.029	0.027
Wage bargaining structure				0.213		
Union density (%)				0.006		
Employment protection				-0.369		
Vocational specificity sec. education (%)					0.024***	0.020***
Dual system					-0.060	
Stratification sec. education					-0.231	
Tertiary education qualifications (%)					0.060**	0.070***
Variance components						
school-leaver level (N = 91,088)	1	1	1	1	1	1
period level (N = 80)	0.027***	0.034***	0.034***	0.033***	0.029***	0.032***
country level (N = 15)	0.606***	0.671***	0.726***	0.823***	0.377***	0.269**

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests; one tailed tests for country effects)

ref. = reference category

source: pooled ECLFS-data 1992-1997

In model 3, where the institutional characteristics with regard to industrial relations are added to the model, the general labour market situation does have an effect on the country's proportion of school-leavers having a part-time job. Apparently, the general labour market situation within a country is correlated with its institutional context concerning labour market regulation. The institutional characteristics themselves have no significant effect on the odds of having a part-time job.

Model 4 brings about a significant improvement of the model. This relates especially to the vocational specificity of secondary education and educational participation at the tertiary level. The more vocationally-specific a country's secondary education is, the higher the proportion of school-leavers having part-time work. So, with respect to part-time employment hypothesis 5 has been falsified. In addition, the more the tertiary education system has expanded, the higher the overall proportion of part-time work in that country. This finding corroborates hypothesis 7. Note, however, that this effect controls for the individual effect of level of education. For each individual, the odds of having part-time work are negatively correlated with his or her level of education. But the more individuals have attained tertiary education in a specific country, the higher the odds of having a part-time job for school-leavers in that country, irrespective of their own level of education.

The introduction of only the significant variables of the country's education system in model 5 shows that these explain about half of the original differences between the various countries. Figure 5 displays the posterior means for each country in the models 0, 2 and 5. The figure clearly shows the large differences in the proportion of young people having part-time work between Sweden and the Netherlands on the one hand, and Luxembourg and Portugal on the other hand. It also expresses that the posterior means in the countries do no change between model 0 and model 2, indicating that the differences between countries cannot be explained by individual characteristics and general labour market conditions. The educational characteristics of model 5 do seem to explain the specific performance of some countries such as Sweden, Portugal, the Netherlands, Italy, Greece, Ireland, Belgium and Austria. However, these characteristics do not explain the position of the other countries, most notably Luxembourg, Spain and France. In these countries, other factors cause the country-specific position with respect to the proportion of school-leavers having part-time work.

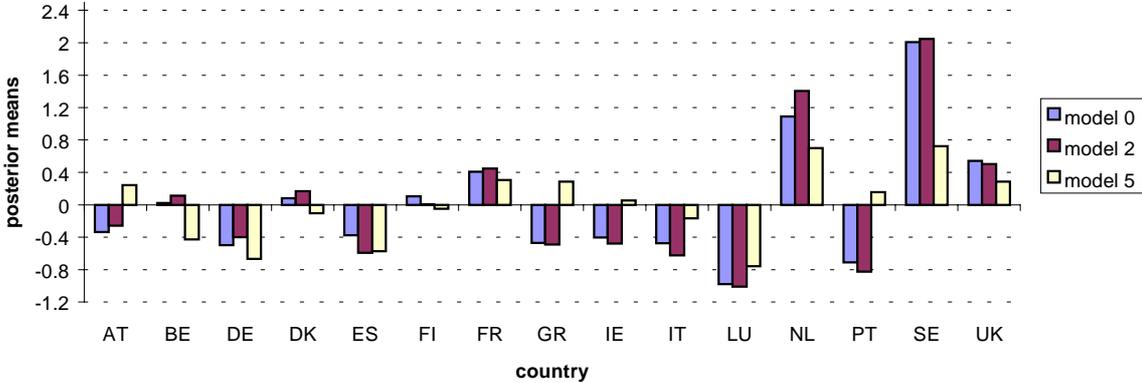


Figure 5. Cross-country performance with regard to having a part-time job
 source: pooled ECLFS-data 1992-1997

5. Conclusions and discussion

In this paper we investigated to what extent national institutional arrangements both with regard to the employment system and the education/training system affect the integration of young people into the labour market within the European Union. The aim was to determine differences in the integration process between countries and to relate this cross-country variation to differences in national institutional contexts. For this purpose, data of the European Community Labour Force Surveys (ECLFS) for the period 1992-1997 were used, which provide information about three important indicators that capture the (lack of) labour market integration of youngsters: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. To estimate systematic variation between countries adequately, we applied multilevel analysis to the data which statistically controls for variation within countries between individuals and variation within countries between years.

The findings with regard to the likelihood of being unemployed show that there are substantial differences between countries. The highest proportions of unemployment are found in Italy, Spain and Greece, whereas the lowest unemployment rates are observed in Luxembourg, Austria, the Netherlands, Germany and Denmark. This cross-country variation in youth unemployment rates is almost fully explained by differences in the general labour market situation and varying institutional contexts with respect to employment protection and the presence of a dual system. For example, the extremely high unemployment rate among school-leavers in Spain can be attributed entirely to the high general level of unemployment in this country. If one takes that effect into account, the unemployment rate among school-leavers in Spain is even lower than the overall level of youth unemployment within the European Union. The same applies to Italy: the high unemployment rate for school-leavers in that country can mainly be explained by an unfavourable general employment situation. Furthermore, high employment protection of the existing labour force and the absence of a dual system hinder Italian school-leavers in finding a job. Greece seems to be an exceptional position. Its high level of unemployment among school-leavers can only partly be explained by the institutional factors measured in this paper. On the other hand, the low youth unemployment rates in the German surrounding countries seem to be caused primarily by the existence of an extensive dual system, even after taking the favourable general labour market situation in these countries into account. Danish school-leavers also profit from a relatively low strictness of employment protection. In Austria and Germany the centralised/co-ordinated wage bargaining structure seem to lower the youth unemployment rate in both countries.

There are huge country differences in the performance with regard to school-leavers having a temporary job. Especially in Spain and, to a lesser extent, in Finland, school-leavers often start in a job with a temporary contract. In Luxembourg and Austria, on the other hand, the proportion of youngsters who are working on a temporary basis is very low. About half of the cross-country variation can be explained by the effects of the general labour market situation and the degree of employment protection of the existing labour force. So, the high proportion of temporary employment in Spain, for instance, can basically be ascribed to its bad labour market circumstances in general and its high degree of employment protection. The other half can be explained by other, unmeasured country characteristics.

Large differences with regard to the proportion of young people having part-time work are also observed within the European Union. Sweden and the Netherlands have the highest rates of part-time employment. In Luxembourg and Portugal, on the other hand, only a few percent of all school-leavers work in a part-time job. The differences between the countries can neither be explained by individual characteristics, nor by general labour market conditions. Instead, two indicators reflecting patterns of educational participation determine to a large extent the rate of part-time employment in a country. Firstly, it is found that the more youngsters follow a vocational programme in secondary education, the higher the proportion of school-leavers having part-time work. Secondly, we observed that the higher the attainment of tertiary education is, the higher the proportion of part-time employment among school-leavers. In a number of countries, however, these two educational characteristics do not explain their position within the European Union. In these countries, most notably Luxembourg, Spain, and France, other factors cause the country-specific performance with respect to the proportion of school-leavers having part-time work.

Overall, it can be concluded from these results that the labour market integration of young people within the European Union is indeed systematically structured by national institutional contexts. With regard to national institutional factors concerning labour market regulation, it is primarily the employment protection of the existing labour force that has a damaging effect on the integration process of youngsters. In countries with a less strict employment protection legislation, school-leavers find a (stable) labour market position more easily than in countries with highly strict employment protection. This finding confirms empirically the supposed insider-outsider dichotomy in the labour market. Unexpectedly, the wage bargaining structure and trade union density do not have any effect on the integration process.

With regard to institutional characteristics of education systems, it is clear that the presence of an extensive dual system - as a workplace-based vocational training system - improves the transition from school to work in a country. The positive effect of having a dual system on the labour market integration of youngsters stems from the strong allocation function of the dual system: the institutionalised pathway it provides for young people to enter the labour market. The effect does not seem so much to be related to the more vocational orientation of countries with a dual system, since the occupational specificity of vocational education does not play an important role in the integration process. The stratification of the education system does not have an impact on the transition from school to work either.

Furthermore, it turned out that the indicators for the measurement of youth labour market integration show quite similar results. Only with respect to part-time employment it seems that this labour market outcome is a less appropriate indicator. First of all, the cross-country variation regarding part-time employment could not be explained by the factors that are - to a large extent - responsible for country differences with respect to the other indicators. Part-time employment among young people in a country is neither influenced by the general labour market situation nor by the degree of employment protection and/or the presence of a substantial dual system in that country. In addition, part-time employment is hardly correlated at the country level with the two other indicators for the integration of young people into the labour market, whereas these other indicators are fairly strong interrelated. In this paper, part-time employment has been considered in relation to young people only, while it would have been interesting to compare young people with more experienced workers in that respect. It might well be that a high percentage of part-time work in a country is not a characteristic of the youth labour market, but a more generalised feature of the labour market of that country.

Lastly, we should mention a certain limitation of this paper. Due to the rather restricted availability of adequate dependent variables in the data set used, we could not give a complete picture of

the integration process of school-leavers into the labour market. Firstly, information on wages is lacking. Secondly, job match or skill use characteristics are missing. For instance, it was not possible to determine whether the actual level of education held by school-leavers fits with the theoretical level of education requested by the job ('over-education'). Thirdly, information on labour mobility is not available. Since school-leavers often start in jobs that do not match their education, job mobility is considerable among school-leavers. Therefore, in future research it would be very interesting to investigate whether national institutional contexts affect these other indicators of youth labour market integration. However, this kind of information requires other comparative data sources that are unfortunately not available (yet).

Note

1. Due to the small number of degrees of freedom at the country level ($N = 15$), a high level of multicollinearity can occur between the explanatory variables. Indeed some country characteristics are relatively strongly (but not extremely strongly) correlated together (see Appendix A). For this reason we decided to estimate different specifications of the models 3, 4 and 5. Appendix B reports on estimates that have been obtained from regressions in which only one country characteristic at the same time is included, *ceteris paribus*. Since the results of these regressions show similar significant effects of the country characteristics as reported in the Tables 3, 4 and 5, we can be fairly confident of the reality of such effects. Only with respect to the likelihood of having a part-time job do we find a significant effect of employment protection, which becomes insignificant if other characteristics of the employment system are statistically controlled for.

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Appendix A. Bivariate correlations between national institutional contexts

Variable	1.	2.	3.	4.	5.	6.	7.
1. Wage bargaining structure	1.000						
2. Union density (%)	-0.074	1.000					
3. Employment protection	0.508*	-0.365	1.000				
4. Vocational specificity sec. educ. (%)	0.555**	0.181	-0.031	1.000			
5. Dual system	0.548**	0.004	-0.133	0.470*	1.000		
6. Stratification sec. education	0.641**	-0.491*	0.314	0.458*	0.644**	1.000	
7. Tertiary education qual. (%)	-0.430	0.262	-0.466*	-0.083	-0.165	-0.316	1.000

note: N = 15

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests)

source: pooled ECLFS-data 1992-1997

Appendix B. Single country effects for the different dependent variables

Dependent variable	being unemployed	having a temporary job	having a part-time job
Wage bargaining structure	-0.006	0.122	-0.190
Union density (%)	-0.002	-0.001	0.009
Employment protection	0.154*	0.330**	-0.370*
Vocational specificity sec. education (%)	-0.002	-0.004	0.019**
Dual system	-0.440**	-0.729**	-0.031
Stratification sec. education	-0.111	-0.293	-0.165
Tertiary education qualifications (%)	-0.005	0.026	0.066**

note: controlling for type of school-leaver, level of education, sex, and aggregate unemployment rate

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (one tailed tests)

source: pooled ECLFS-data 1992-1997