

**The Educational Stratification of Unemployment Risks
at the Beginning of Working Life:
Results from France, the United Kingdom and West Germany**

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Abstract

Over the last two decades, youth unemployment emerged as one of the major problems of many contemporary European societies. As educational achievement is regularly claimed to prevent labour market exclusion, this paper explores the educational stratification of unemployment in early labour market career and its institutional embeddedness in specific education and employment systems. The paper investigates unemployment of market entrants in France, the United Kingdom and West Germany, using microdata from national Labour Force Surveys for the mid-1990s. Methodologically, we model unemployment risks at sequential career stages by bivariate probit models, and assess the effects of educational achievement on both unemployment due to initial job search and due to instability of initial employment. As a result, we are able to present evidence of a sharp distinction between the nature of educational stratification observed in Germany on the one hand and France and the United Kingdom on the other. In Germany, labour market entry is found to occur fairly smoothly and immediately for vocationally qualified leavers, while extensive search for first jobs is confined exclusively to the least qualified. This pattern of educational stratification remains dominant also after initial employment has been found and if observational selectivity is controlled for. In France and Britain, in contrast, the match between qualifications and jobs is less clear-cut. Rather, the level of education provides advantages in terms of less search unemployment and lower job instability, yet differentiation is much less pronounced.

The Educational Stratification of Unemployment Risks at the Beginning of Working Life: Results from France, the United Kingdom and West Germany*

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1 Introduction

In many European societies, high levels of youth unemployment are perceived as a major social problem. Since the 1970s, a significant proportion of young people faces extended periods of social marginalisation in their early labour market career: They show considerable problems in entering the labour market and are likely to be unemployed again years later (Franz et al. 1997; Handl 1996; Helberger et. al. 1994; Büchtemann et al., 1994; Winkelmann 1996; Ashton/Sung 1992; Bynner/Roberts 1991; Evans/Heinz 1994; Ruiz-Quintanilla/Claes 1996; Goux and Maurin, 1998). However, youth unemployment rates vary greatly cross-nationally. Countries like Germany, Denmark or Austria seem to perform well above the EU average in terms of youth unemployment. In comparative research, the peculiarities of education and training systems are regularly claimed to affect the nature of labour market integration: more precisely, the vocational specificity of education and training systems is said to be related to the smoothness of labour market entry and resulting low levels of youth unemployment (Müller/Shavit 1998; OECD 1996, 1998a). Besides this institutional effect on the smoothness of labour market entry, individual investment in education is regarded in all the countries as the best means for young people to avoid problems in entering the labour market and secure a good job (Benoit-Guilbot 1995; Béduwé/Espinasse 1995; Tanguy 1995).

Against this background, we will explore *exactly how educational credentials stratify the risk of unemployment in early labour market career and in which ways these relationships are shaped by distinctive institutional arrangements in education and training systems*. To assess this impact of institutional differences, the early labour market career is especially appropriate. First, educational credits are of special importance there, as no other or just quite sparse information about entrants' labour market performance is available yet. Second, country differences are most pronounced in that period so that we can expect to obtain a more clear cut picture than for instance focusing at the core workforce. The present paper addresses the relation between education and unemployment at labour market entry comparing three countries with typically different education and training systems: West Germany, France and the United Kingdom (Allmendinger 1989; Müller/Shavit 1998; Maurice et al. 1982; Marsden 1990; Hannan et al. 1997). That the institutions do matter with regard to the returns to education has been demonstrated extensively in other research (Shavit/Müller 1998, Brauns et al 1999)

focusing, however, mainly on the access to specific labour market positions. To broaden that perspective and to extent it to an other undoubtedly relevant dimension: the exclusion from that kind of positions, we investigate here into the risks of unemployment.

Thus, the paper will be guided by two main questions:

- 1) Which role does education play with regard to young people's risk of unemployment? Here we distinguish two different situations in which young entrants are at risk to be unemployed by differentiating two successive stages in the early labour market career. (1) To what extent do educational credentials enable market entrants *to find initial employment* quickly after leaving education and training; how does it help to bring young people "in the door" (Bills 1988) And (2) to what extent does education *protect from job instability after initial labour market entry*, associated with low levels of unemployment in early labour force careers?
- 2) How do these relationships differ across countries? In which way do institutional arrangements in education and training systems in the three countries shape the role of education for market entrants' unemployment risks?

The remainder of the paper proceeds as follows: The next section presents theoretical perspectives that will be used as a guideline for our analysis. Section 3 describes data and empirical procedures. The analyses draw on individual data from national labour force surveys carried out in the mid-1990s. Empirical results are the subject of section 4 and 5. Section 4 addresses the relationship between education and the risk of unemployment across countries on a descriptive basis. In section 5, we go a little further into the details of unemployment risks in early labour market careers, exploring the effect of education on both "getting in" and "staying on". The paper concludes with a summary of the empirical results.

2 Theoretical considerations

Both economic and sociological theories acknowledge a strong relationship between education and unemployment, although a variety of (conflicting) mechanisms are specified for explaining the linkage (Becker 1993, Mincer 1994; Spence 1973, 1981, Kettunen 1994, Stigler 1961, Arrow 1973). While according to human capital theory educational credits serve as indicators for the individuals' productivity, for screening and signalling theories credits indicate their trainability. Employees are then distributed to specific jobs on the basis of their signalled performance ability for employers (Thurow 1975).

Educational achievement, however, has many dimensions that may signal more or less competence for a given job. We consider *hierarchical level of (general) education* reached and *vocational specificity*

of the degree. Both dimensions, although with different emphasis, signal the potential training costs for specific employees, since educational processes already involve long periods of screening and subsequent selection (Jencks 1972). The first provides employers mainly with information about job candidates' general cognitive capacities to learn new skills and to adapt to new technical environments, the second about their expertise for specific tasks at hand. Consequently, the level of education *and* the vocational specialization of the credential are assumed to reduce individual unemployment risks. The extent, however, to which they serve as reliable signals and which kind of educational credits are consequently given weight to what extent in the hiring process depends on major characteristics of the national education system and the labour market structure (see Müller/Shavit 1998; Marsden 1990). Previous work has shown extensively that Germany, France and the United Kingdom represent different (ideal-) types of education and labour market systems (Maurice et al. 1982; Eyraud/Marsden/Silvestre 1990; Marsden 1990; Marsden/Ryan 1991a, 1995; Allmendinger 1989; Breen et al. 1995; Müller/Shavit 1998; Brauns et al. 1999; Kerckhoff forthcoming, 1996; Hannan et al. 1997; OECD 1998b). Overview 1 briefly describes the education and labour market systems in the three countries.¹

Overview 1

Germany is typically associated with the predominance of occupationally structured labour markets where jobs are standardised nation-wide, clearly defined in terms of content and occupational skill requirements (see Maurice et al. 1982; Eyraud/Marsden/Silvestre 1990; Marsden 1990; Marsden/Ryan 1991a, 1995). This labour market type is closely linked to the strong emphasis on vocational training in the German education system. The large majority of German school-leavers, from all levels of general education, complete vocational training which predominantly takes place within the dual, that is the apprenticeship training system. The dual system is organised along the lines of occupations, almost 400 in the skilled trades and administration, industry, services, agriculture, health etc. Thereby, it provides a high degree of homogeneity throughout the system: Compared to vocational education systems in other countries, it is not vertically stratified, in that hierarchical qualification tracks leading to different diplomas are offered which require different attainments in the general education system for admission. Instead, pupils with different general education backgrounds may participate in the same apprenticeship cursus (of course, one's level of general education attained largely determines the specific chances and choices made). Reform of the vocational training system in past years has not been realized by major structural reforms as in other countries, but within the existing framework: Rather than questioning the notion of "occupations" as the underlying concept of vocational training in Germany, the so-called "recognized training-occupations" ("anerkannte Ausbildungsberufe") have been redefined according to the needs of modern economy. Overall, the concept of a „Beruf“ (an occupation) is still a central principle that regulates training contents, qualification standards and examinations, in particular in the dual system but also in higher education. Higher education is also less stratified, horizontally and vertically, but also less expanded than in other countries (see OECD 1998). Academic training is traditionally offered by the universities, involving at least four years of study. Shorter, less academic studies, although on a high theoretical level, are provided by the "Fachhochschulen".

France is typically associated with the prevalence of firm internal labour markets. In contrast to occupational labour markets, job design as well as skill requirements are highly firm-specific. Mobility across firms is limited; career advancement is highly related to seniority. The weak emphasis in the French education system on vocational education, and of apprenticeship training in particular, is considered an important indication of this labour market type. Compared to Germany, the French education system traditionally has a much stronger emphasis on general than on vocational education. Over the last two decades, though, vocational education facilities have been expanded and modernised. Modernisation of the vocational education system partly implied the development of alternating training. In first place, however, education politics aimed at rising the *level* of attainment in vocational education by introducing higher vocational diplomas on the upper secondary and lower tertiary level. In contrast to Germany, vocational education is in many ways closely connected to the general education system. A national qualification grid establishes formal equivalence between various general and

vocational diplomas. Moreover, attainment of a specific vocational diploma is highly dependent on the pupil's general education. General and vocational education are embedded within a single integrated system which is highly stratified. Below the level of tertiary education, qualification is available on four distinctive levels, each of which is differentiated into various tracks. Vocational qualification alone is offered on three levels and in three different branches, the latter being differentiated into a number of tracks (see Brauns/Steinmann 1999; Brauns 1998, 1999). Likewise, tertiary education is highly stratified, both horizontally and – on three levels - vertically. Long-term studies are available at the universities, and in smaller scale, at the elitist “Grandes Ecoles”. Short-term studies in some academic areas are awarded by the universities, and on a much smaller scale, by the elitist preparatory courses for the “Grandes Ecoles”. More practical courses are taught by a number of other institutions that have been designed for the training of highly specialised technicians, nurses, kindergarten teachers etc.

There are conflicting views on the British labour market. Disregarding the relatively small segment of the skilled trades, where occupational labour markets traditionally prevail, and given the preference for “generalists” rather than “specialists” in the British labour market, one would tend to classify the labour market as one where internal rather than occupational labour market structures prevail (see Sorge 1983; Lane 1992; Marsden/Ryan 1991b). Although Great Britain shares with Germany the tradition of apprenticeships, there is substantial commonality with France: first, apprenticeships have not attained the same prestige as in Germany nor the same wide diffusion across all economic sectors. It is mainly confined to the crafts and has been steadily declining since the 1960s. Second, vocational education in general has always been of secondary importance. As in France, it does not carry any status in the wider society and does not attract the more able and motivated youngsters. The British system has a stronger emphasis on general education and on producing “generalists” rather than “specialists” trained in a specific occupation. In the early 1990s, however, the British started an initiative for modernising vocational training which had previously been largely unregulated and unstandardised (Steinmann 1999). Vocational qualification is offered on different levels and in two different frameworks: broad-based General National Vocational Qualifications (GNVQs) and job-specific National Vocational Qualifications (NVQs). Higher education involves a “binary system” with the universities and the polytechnics combined with other technical colleges.

As a consequence of these cross-national differences in the institutionalisation of education and labour markets, we expect the educational stratification of unemployment risks to vary between the three countries. We distinguish the overall importance of education as well as the impact of single educational dimensions at differentiated career stages.

We know from a large amount of research, that the way the labour market entry takes place varies considerably between the countries and in conjunction with different institutional settings (Hannan et al. 1997; OECD 1998, Müller/Gangl/Scherer 2000, Scherer 2001), going along presumably with different ways of converting education into labour market positions (Munk 1998, Bourdieu 1979). To take into consideration these cross-national differences with regard to the labour market entry process and to draw a more detailed picture of the impact of education on the unemployment risk in early career we distinguish between two different career stages: the *initial entry* into the labour market and the *subsequent employment stability* (details of how we do this can be found in section 3).

In systems with a clearly separated youth labour market, as we find it in France and the UK, labour market entry is less ‘smooth’ than in dual system countries. Entrants are first placed in so-called bottom-positions of potential internal career ladders. Since school-leavers have not yet developed the skills that are required for the job at hand and need first to be screened on a cost-efficient basis, labour market entry often implies a temporary employment contract and/or low ranking occupational position. In the long run, however, this does not necessarily imply that formal education is

unimportant for job allocation. Their performance on the job is observed for some time before decision on behalf of their promotion and/or continued employment is made. As a result, the benefits to educational achievement due to employers' screening or better performance on the job may come into play later. This should particularly be the case in France, with its strong credentialist orientation (Brauns 1998). In contrast, due to the strong institutional link between educational attainment and labour market positions and the capacity of training system to canalise the persons into adequate positions, successful entrants in Germany secure a good match already at the very beginning of their career.

As a consequence of the different institutional links between the education and training system and the labour market countries vary with regard to the *overall* importance assigned to educational credits. Partly this is due to formal regulations demanding the possession of 'appropriate' credit for the access to specific positions, partly due to employers assigning not a major value to the educational credits in their hiring decision for other reasons. France and Germany are typically seen as countries with a strong credentialist tradition, where the access specific positions is strongly formally regulated and through the sorting function of the educational system the signal character of the credits is high. In France formal education certificates play an important role for legitimising peoples' social and occupational standing (Brauns 1998). In contrast, education in Britain traditionally has never been assigned the same value. We expect therefore that education in general is of greater importance in France and Germany than it is in Britain.

But what do these differences in the entry process and the amount of credentialism imply for the stratification of the unemployment risk in the two differentiated stages? In our argumentation we follow the inherent time structure of the two processes.

(1) labour market entry – or the other way round: the risk of unemployment before initial market entry – is expected to be less selective (or structured) by formal education in France and Britain than in Germany. School-leavers should not find themselves excluded from being hired simply on the strength of their educational (non)achievement, as it is expected in Germany. To the countermove the entry is more a function of searching time.

(2) Due to the institutionalised link between types of educational pathways and occupational 'entitlement', entry via a 'structured' transition from training into employment into regulated, standardised career line in Germany qualified school-leavers are almost sure to secure a 'good' job match (Konietzka 1999; Müller et al. 1998; Brauns et al. 1997, 1999). Therefore, being hired into the closed system, goes along with subsequently relatively stable positions. Thus, education (especially vocational training) should not only facilitate the fast entry into first employment but also –via stable job matches- reduce the risk of unemployment later on. For France we should observe increasing returns to education in the course of career development, while in the UK also in the second stage,

education should remain of less importance for preventing against the job losses; it is expected to be more a function of the then available job experience instead.

Given the selectivity in the first entry step, we rather expect reinforcing patterns of educational stratification of the unemployment risk. In principle this is true for all the three countries but to varying extents, with Germany showing the highest selectivity. In addition, the amount of interconnection between the two modelled career steps provides us with a good indicator for the integration of the different processes. Expecting high inter-correlation of the two labour market stages in Germany also stands for integrated youth labour markets, while the expected loose connection in France and UK indicates rather separate markets.

Up to now we were not further distinguishing between the two dimensions of education but were treating education as a uniform concept. As already mentioned the countries may, however, vary in the detailed educational credits that are given weight. This is what the subsequent graph is devoted to. In countries with a marked component of vocational training in initial education and, closely related to this, a preponderance of occupationally segmented labour markets, employers tend to look primarily for workers with some expertise for the occupation to be carried out. By contrast, in countries with a strong emphasis on general education and segmentation features of separated youth labour markets and/or firm internal labour markets, employers tend to search for employees who can easily be trained into the job at hand and – over the long run - into higher level jobs. In this case, general education credentials are considered an important signal.

Germany is widely known for its dual system of vocational training and its capacity to structure young people's transition into the labour force. Since dual system training² is highly standardised nationwide, vocational qualification certificates confer reliable information about the apprentices' skills and also serves an important screening and socialising function. Going along with the prevalence of an occupational labour market, it leads German employers to consider vocational specificity (occupational relevance) as an important facet of candidates' educational attainment. Compared to school-leavers with general education only, vocationally qualified school-leavers should profit from substantial advantages for entering the German labour market *and* subsequent job stability. France and the UK on the other side are characterised by a lower standardisation of jobs across firms in terms of predefined "occupations", a limited importance of apprenticeship-training and a less "institutionalised" matching of jobs with school-leavers. In consequence, vocational training is supposed to be relatively unimportant for recruitment into jobs. Instead, employers are expected to look for signals indicating job candidates' cognitive capabilities to be trained for the firm-specific tasks and, later, to advance on the internal career ladder. Rather than valuing vocational qualification, French and British employers should therefore screen job candidates according to their *level of education* reached. Before empirically assessing our different hypotheses, we will discuss the data and methodology of the study.

3 Data and Methodology

Data

Our empirical analyses draw on microdata from national Labour Force Surveys (LFS). More specifically, we use the French 1994 Enquête Emploi, the 1994 UK Labour Force Survey, and the 1995 German Mikrozensus, where the sample has been restricted to West German respondents. LFS data have many advantages in comparative research: the surveys share a common methodology, as well as a substantive questionnaire core focused on individuals' current labour force behaviour. As survey contents are partially standardized by design, LFS data provides a particularly attractive source for cross-nationally comparative research. In addition, the huge sample sizes available in the LFS allow for precise statistical estimation and differentiated analyses of specific subpopulations – like labour market entrants – which are often insufficiently represented in alternative data bases.

On the other hand, LFS data are not necessarily ideal for the purpose at hand due to their almost exclusively cross-sectional nature. In fact, LFS provide extremely detailed information about current labour market behaviour and employment, including extensive details on educational achievement and participation as well as other background information. The main weakness of the LFS data is that empirical information refers to a single point in time, except for a limited set of retrospective questions, so that individual trajectories since leaving education and training cannot be observed.³ Yet, with some restrictions, LFS data can be used to address the structure of labour market entry processes, given that the latter are reasonably well defined in both biographical and institutional terms. As information on *individual* time of leaving the educational system is available in both the French and the British survey, and is very likely to be well approximable in a tightly structured system like the German one, we can thus easily identify individuals in their first few years on the labour market from the LFS.⁴

For the purposes of our analysis, we retain a sample of all individuals having left the education and training system within the last seven years. It is important to realize that, in applying this sample definition relative to the event of leaving the educational system, we are in a position to generate information on the outcomes of labour market entry processes. By comparing individuals observed at the same historical point in time, but at varying length of time in the market, we can easily generate information on the relation between the level of unemployment and time on the market, educational background, gender or other factors. This information certainly differs from genuine longitudinal data: with cross-sectional data, we are obviously unable to address the nature of underlying events, as e.g. to distinguish between unemployment stemming from few long spells as compared to many short, and possibly repeated spells. Interesting as this is in its own right, we believe that the level of integration problems, and the effects of education on these, is important information in itself, which deserves analyses even if the underlying processes cannot fully be captured.

But to some extent, we are nevertheless able to disentangle actual social processes even from LFS data. Using retrospective information on last jobs and the question whether respondents have ever worked, we can distinguish whether individuals currently unemployed are so because they still look for their first job immediately after having left the educational system, or whether they became unemployed again after having found (at least one) initial employment (excluding apprenticeship or similar training contracts). This distinction allows us to tap cross-national differences in actual social processes to quite some extent because it will enable to distinguish between educational effects on the failure to quickly access employment after leaving education as compared to educational effects on the risk of having had access to fairly unstable employment only. That is, we will be able to assess the extent to which particular types of training provide advantages in terms of both quick access to employment and access to stable jobs, and the respective performance of similar types of training in three countries. In fact, this can even be seen as an analytical (rather than definitional) approach to the long-standing problem of stratification research to the proper treatment of apprentices in school-to-work transition studies, because we will be able to separate the (likely substantial) effects on job search from those on employment stability.

After all, there remains one potential threat to the validity of so generated synthetic life course data, namely the likely importance of cohort effects present in our empirical data. If we assume that cohort effects (in adjacent annual leaver cohorts) have been strong in the early 1990s, our synthetic life course information will be invalid as it has been generated from individuals of different cohort background and outcomes we observe do not adequately represent the structure of unemployment incidence in the first few years of labour market careers. In fact, we doubt the existence of such dominant cohort effects in our current analysis, as neither overarching institutional reforms substantially changing the contents of particular types of training have taken effect in the late 1980s and early 1990s in the countries, nor do we assume that cohort rather than period effects of business cycle conditions are dominating in the short run.⁵

Variables

The dependent variable of our analysis is the probability of unemployment among young people in the early career stage, conditional on individuals having left the education and training system and supplying labour to the market. Unemployment is defined according to ILO conventions, i.e. not having worked in the reference week, but being available for taking up paid employment within two weeks, and actively searching for a new job.⁶ As detailed before, we additionally distinguish whether this current unemployment results from initial job search or followed job loss. With respect to covariates, we focus on the role of education, but include gender, time in the labour market, and job and contract type as two measures of attained jobs in the model estimation. Education will be measured by the well-known CASMIN scale (Brauns/Steinmann 1999; Müller/Shavit 1998;

König/Müller/Lüttinger 1988 for the original conception). We apply the eight-category version of the classification shown in Table 1 below. The scale distinguishes hierarchical levels of attainment and differentiates between ‘general education‘ and ‘vocationally-oriented‘ tracks,⁷ which allows for the representation of non-linearities in the effects of education (Braun/Müller 1997).

Table 1: The CASMIN scale of educational qualifications

Qualification	Description
1ab	This is the social minimum of education. Namely, the minimal level that individuals are expected to have obtained in a society. It generally corresponds to the level of compulsory education
1c	Basic vocational training above and beyond compulsory schooling
2b	Academic or general tracks at the secondary intermediate level
2a	Advanced vocational training or secondary programmes in which general intermediate schooling is combined by vocational training
2c	Full maturity certificates (e.g. the Abitur, Matriculation, Baccalauréat, A-levels)
2c voc	Full maturity certificates including vocationally-specific schooling or training (e.g. Baccalauréat de technicien)
3a	Lower-level tertiary degrees, generally of shorter duration and with a vocational orientation (e.g. technical college diplomas, social worker or non-university teaching certificates)
3b	The completion of a traditional, academically-oriented university education

Source: adapted from Brauns/Steinmann 1997, pp. 33-35, and Müller/Shavit 1998, p.17

In addition, we control for the time since leaving the educational system, as already generated for sample selection purposes. For those individuals who already succeeded in finding a job, we define two crude indicators of job types.⁸ First, we measure whether individuals hold or held temporary jobs or were on fixed-term contracts, and second, we use a broad segmentation measure distinguishing between professional positions, self-employment, skilled positions, and unskilled employment. The latter measure has been derived from the EGP classification (Erikson/Goldthorpe, 1992; Brauns/Steinmann/Haun, 2000), with the precise construction documented in Appendix A1. In total, we retain samples of 11,621 (France 1994), 11,218 (United Kingdom 1994), and 19,494 individual cases (Germany 1995) who fall within our sample definitions.

Modelling Strategy

Empirically, we observe the incidence of unemployment in two stages of labour market integration processes. First, young people experience unemployment as they are unable to find a first job after leaving education and training. Second, they experience unemployment because the jobs initially found proved unstable and were lost. That is, unemployment potentially arises from two different, but temporally ordered processes. As the dependent variable is a probability, both processes can be easily modelled by logit or probit models. In fact, this is a classical sequential estimation situation (Maddala,

1983), which arises also in other kinds of ‘treshold’ situations (cf. Helberger et al., 1994, for a related application). The main complication in the analysis, at least given our inherently cross-sectional data structure, arises from the fact that individual clearing of the treshold of finding a first job might be selectively observed only for the relatively most successful individuals. That is, our estimates for the second stage process might be biased due to sample selection, which will obviously affect cross-national inferences if countries differ markedly in the efficiency of job search. In order to control for this effect, we estimate our two stage model not as sequentially independent, but as potentially correlated observations by means of a bivariate probit model with sample selection (cf. Greene, 1997; but also Breen, 1996, for a general introduction to such models). This model allows for a correlation between the two substantive equations and arises from specifying that any outcome of the temporarily subsequent process is only observed if the outcome of the temporarily preceding process is positive, i.e. the initial job search ‘treshold’ has been cleared. More precisely, the log-likelihood function for this model then becomes

$$(1) \ln L = \sum_{y_2=1, y_1=1} \ln \Phi_2[\beta_1'x_{i1}, \beta_2'x_{i2}, \rho] + \sum_{y_2=1, y_1=0} \ln \Phi_2[-\beta_1'x_{i1}, \beta_2'x_{i2}, -\rho] + \sum_{y_2=0} \ln \Phi[-\beta_2'x_{i2}]$$

with Φ signifying the standard uni- respectively bivariate normal cumulative distribution function, $x_{1/2}$ the vectors of individual covariates, and $\beta_{1/2}$ the parameter vectors for each function. In the current analyses, we predict the individual success in initial job search from education, gender, and time since leaving the educational system, while we estimate the effects of education, gender, and job type on the risk of job instability in the second stage. Time since leaving the educational system is included in the first equation because it can appropriately serve as a duration measure of ongoing first job search. The equivalent role should be played by tenure information in the second stage model, which is unfortunately unavailable, as the duration of the unemployed’s last job is unknown.⁹ The parameter ρ , finally, yields the correlation between the two equations. In fact, ρ can be given an appealing substantive interpretation in our context: the more negative ρ becomes, i.e. the more failures in both processes are correlated, the more ‘integrated’ initial job search is into the operation of the more general labour market, which can be thought to govern unemployment risks in the second stage. To turn this around: the lower ρ becomes in absolute terms, the less predictive early labour market failure becomes for later failures, and consequently, the more peculiar the conditions of initial job search are in a given country. In short, large values of ρ signal the absence of any particular youth labour market. But before we turn to the results from this multivariate model, we first briefly present some descriptive evidence on cross-national differences in terms of unemployment risks among labour market entrants.

4 Education and Unemployment at Labour Market Entry

Young people having entered the labour markets in France, the United Kingdom and West Germany in the early 1990s have apparently been exposed to fundamentally different levels of unemployment. For

our sample of individuals in the first seven years in the labour force, unemployment rates range from as low as 6% in West Germany to 18% for the United Kingdom and even 23% in France (cf. Table 2 below). But in fact, the breakdown of unemployment figures according to educational background of labour market entrants suggests alternative interpretations to one based on purely macroeconomic differences between countries.¹⁰ If cross-national differences were only macroeconomic in nature, one would expect to see clear-cut country differences in unemployment rates at all levels of education. But as Table 2 shows, there is no unambiguous evidence of such pervasive differences: rather, there are many – and from the perspective of a macroeconomic account fairly surprising – similarities in unemployment rates of young people with similar educational backgrounds across countries.

Table 2: Education and Unemployment Rates among Labour Market Entrants

	France			United Kingdom			West Germany		
	absolute rate	inverse odds ratios against compuls. educ.	within educ. levels	absolute rate	inverse odds ratios against comp. ed.	within educ. levels	absolute rate	inverse odds ratios against comp. ed.	within educ. levels
Educational Attainment									
- CASMIN 1ab	44.3%	REF	REF	37.9%	REF	REF	32.2%	REF	REF
- CASMIN 1c	23.9%	2.53	2.53	24.7%	1.86	1.86	6.8%	6.51	6.51
- CASMIN 2b	32.7%	1.64	REF	18.7%	2.65	REF	17.2%	2.29	REF
- CASMIN 2a	21.1%	2.97	1.81	12.8%	4.16	1.57	3.6%	12.72	5.55
- CASMIN 2c	25.9%	2.28	REF	12.1%	4.43	REF	8.1%	5.39	REF
- CASMIN 2c vocational	22.3%	2.77	1.21	10.1%	5.43	1.23	3.1%	14.85	2.76
- CASMIN 3a	12.6%	5.52	0.83	6.7%	8.50	1.06	4.0%	11.40	1.37
- CASMIN 3b	10.7%	6.64	REF	7.1%	7.99	REF	5.4%	8.32	REF
Total	23.5%			17.9%			6.1%		
N		11,621			11,218			19,494	

Sources:

Enquête Emploi 1994; Mikrozensus 1995; UK Labour Force Survey 1994; Entrants into the labour force, unweighted results

In all three countries, we find evidence of an inverse relationship between educational level and unemployment rates in early careers. More surprising actually is how similar this relationship is, and how similar absolute unemployment rates for the respectively least and highest qualified are. As measured by the odds ratios, university leavers (CASMIN 3b) are about seven to eight times less likely to experience unemployment than those leaving with compulsory education only (CASMIN 1ab) in all three countries. In addition, absolute unemployment rates at either end of the educational scale are fairly similar as well, although more clearly so comparing the United Kingdom to Germany, rather than France to any of the two other countries. At the bottom end, unemployment rates among

leavers from compulsory education are at 32% in Germany, at 38% in the UK, and up to 44% in France. The UK and Germany are also fairly similar at the top end of the distribution, with unemployment rates among university leavers being at about 5% in West Germany, 7% in the United Kingdom, but at 11% in France. Similar patterns can also be observed among leavers from secondary education, notably among those leaving from the more general tracks (CASMIN 2b, 2c). Again, unemployment rates for these leaver groups are strikingly similar in the UK and Germany, but by more than 10% higher in France. In fact, unemployment rates decrease less with increasing levels of secondary education in France than elsewhere.

Moreover, there is also evidence of a positive effect of vocational education in all three countries. In France, the United Kingdom, and West Germany, leavers from secondary level vocational tracks exhibit lower unemployment rates than those having left with more general certificates from the same level of education. Interestingly to our research questions, the magnitude of this advantage of vocational training differs markedly across countries, but also by educational levels. At either the CASMIN 1ab/1c, the CASMIN 2b/2a, or the CASMIN 2c level, leavers from vocational tracks in Germany face the least integration problems, both relative to leavers from general tracks at the same level, but also in terms of absolute unemployment rates comparing equivalent educational backgrounds across countries. As measured by odds ratios, relative advantages of vocational training are much smaller in both Britain and France, notably at the lower and intermediate secondary level. In fact, it is obviously the role and value of vocational training where countries differ markedly. Among leavers from vocational training in Germany (at different CASMIN levels of education), unemployment rates are at similar low levels like those of university leavers. In France, in contrast, unemployment rates among vocationally qualified leavers also differ little by the level of secondary education background, but are still about twice the rates of university graduates. In the United Kingdom, finally, relative advantages of vocational training within each level of secondary education are modest, but the decline across levels of education is quite substantial, so that in absolute terms, leavers from CASMIN 1c are similar to their French counterparts, while at the level of CASMIN 2c vocational, unemployment rates resemble the German rather than the French pattern.

5 Avoiding Extensive Job Search and Subsequent Job Instability: the Role of Education

Why do we observe the patterns described above? Which labour market resources do different types of education confer to young people, and how do these resources consequently affect successful labour market integration? What is the reason for the markedly better performance of vocational training in Germany as compared to both France and the United Kingdom? And why does France deviate from the other two countries in terms of markedly higher unemployment rates among well-qualified leavers? To provide some answers to these questions, we now turn to the results from our bivariate probit model, which addresses unemployment risks for young people as arising either out of

difficulties in initial job search after leaving the educational system or from the instability of jobs found initially. The estimation results are given in Table 3 below. In addition, selected predicted probabilities are graphically displayed in Figure 1, on which the interpretation will be mostly based. The discussion of results in the text will follow the inherent temporal structure of the two-stage model.

Education and Successful Searches for First Jobs

The first stage of our sequence model describes the smoothness of labour market entry: we predict the probability of successful initial job search depending on gender, education and time since leaving education and training (cf. the upper half of Table 2 for estimation results, respectively Panels A and B of Figure 1 for graphical displays of predicted probabilities). Essentially, it is the two latter effects that are of key interest at this stage, namely the nature of educational advantages and the waiting time involved in accessing the first job. The educational effects, of course, describe the nature of educational (dis-)advantages in initial job search, while the time effects allow for an assessment of the waiting time until initial employment. In fact, Panel A in Figure 1 below, which graphs the relation between this time variable and the probability of successful job search, can be seen as a predicted cumulative duration distribution function, i.e. the counter probability of the (annual) survivor function as traditionally generated from event history data.

According to this measure, and controlling for the other variables in the model, initial job search takes substantially more time on average in both Britain and France as compared to Germany. At the means of covariates, the probability of having found one's first job approximately one year after leaving the educational system is more than 95% in Germany, but less than 75% in the United Kingdom and even only about 65% in France. Subsequently, these probabilities quickly converge, but the initial difference in search efficiency between the countries is striking indeed. This finding effectively implies the presence of significantly stronger barriers to youth labour market integration in both Britain and France, in particular, irrespective of the educational background of those entering the market.¹¹ That is, there is evidence of a clear macrolevel difference between Germany on the one hand, and France and Britain on the other; the nature of the effect would also appear consistent with notions of a generally more integrative role of occupational labour market contexts, but we cannot possibly substantiate this further on the basis of the present analysis.

Table 2: Bivariate Probit Model of Unemployment Risks at Labour Market Entry

	France	United Kingdom	West Germany
Job Search			
Women	0.01 (.04) ^{n.s.}	0.35 (.05)	-0.09 (.05) ^{n.s.}
<i>Educational Qualifications</i>			
- CASMIN 1c	0.44 (.06)	0.25 (.06)	1.33 (.08)
- CASMIN 2b	0.47 (.08)	0.63 (.06)	0.37 (.10)
- CASMIN 2a	0.71 (.07)	0.88 (.07)	1.59 (.08)
- CASMIN 2c	0.69 (.09)	0.78 (.07)	0.77 (.10)
- CASMIN 2c voc	0.82 (.08)	0.83 (.09)	1.68 (.11)
- CASMIN 3a	1.14 (.08)	1.06 (.11)	1.23 (.11)
- CASMIN 3b	1.20 (.08)	1.05 (.07)	1.13 (.09)
<i>Time in the labour market</i>			
- First year	-1.88 (.05)	-1.41 (.05)	-0.37 (.06)
- Second year	-1.14 (.06)	-0.85 (.06)	-0.19 (.06)
- Third year	-0.52 (.07)	-0.63 (.06)	-0.18 (.06)
Intercept	1.60 (.05)	1.21 (.05)	1.03 (.06)
Job Instability			
Women	0.06 (.03) ^{n.s.}	-0.27 (.04)	-0.00 (.03) ^{n.s.}
<i>Educational Qualifications</i>			
- CASMIN 1c	-0.42 (.05)	-0.15 (.07)	-0.97 (.06)
- CASMIN 2b	-0.33 (.07)	-0.40 (.06)	-0.44 (.09)
- CASMIN 2a	-0.50 (.06)	-0.53 (.07)	-1.24 (.06)
- CASMIN 2c	-0.41 (.07)	-0.66 (.08)	-0.85 (.10)
- CASMIN 2c voc	-0.60 (.06)	-0.93 (.11)	-1.31 (.07)
- CASMIN 3a	-0.75 (.06)	-0.83 (.10)	-1.12 (.09)
- CASMIN 3b	-0.76 (.07)	-0.83 (.08)	-0.94 (.08)
<i>Job Position</i>			
- Professional Employment	-0.22 (.06)	-0.52 (.06)	-0.23 (.05)
- Skilled Employment	-0.08 (.04)	-0.30 (.04)	-0.09 (.03)
- Self-employment	-0.83 (.14)	-0.27 (.08)	-0.30 (.08)
Temporary Job	1.16 (.03)	0.13 (.06)	-0.05 (.03) ^{n.s.}
Intercept	-0.79 (.04)	-0.44 (.06)	-0.47 (.05)
$\rho_{(1,2)}$	0.04 (.09) ^{n.s.}	-0.38 (.08)	-0.99 (.02)
<hr/>			
N	11,621	11,122	17,720
LL ₀	- 8,215.40	-6,582.70	-4,826.77
LL ₁	-6,310.42	-5,586.26	-4,108.59
LR Test / G ²	3,809.95 (23)	1,992.88 (23)	1,436.36 (23)
R ² _{ML}	0.28	0.16	0.08
BIC'	-3,594.66	-1,778.60	-1,211.36

Notes:

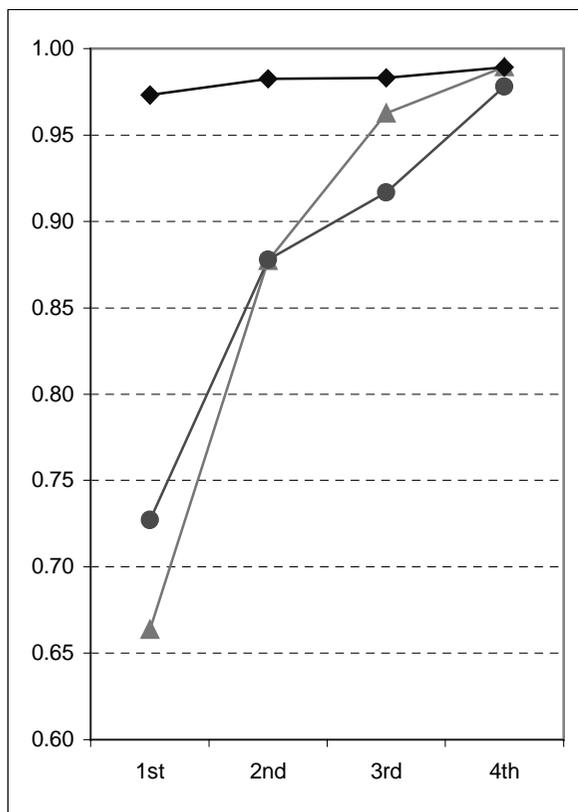
Standard errors in parantheses; *n.s.* signifies statistical significance at $p > .05$; reference categories are CASMIN 1ab for education; unskilled employment for employment positions and fourth year or later for time in the labour market;

Sources:

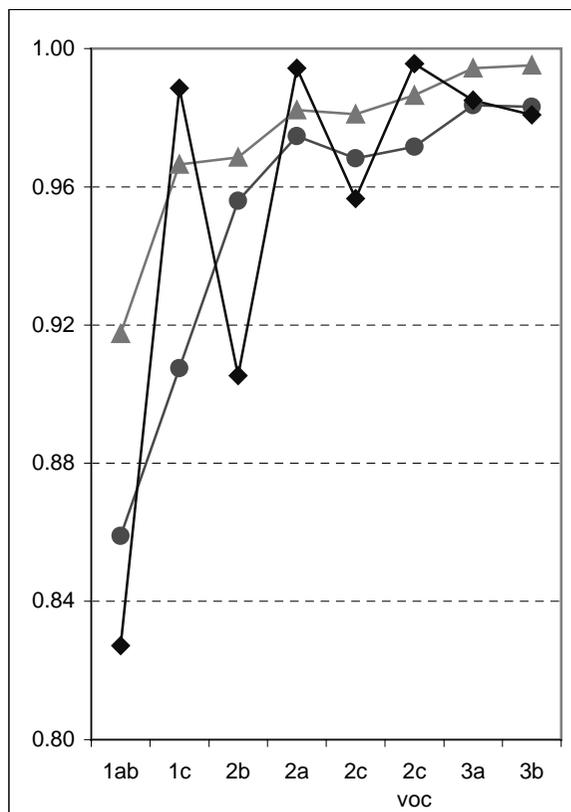
Enquête Emploi 1994; Mikrozensus 1995; UK Labour Force Survey 1994;
Entrants into the labour force, unweighted results

Figure 1: Educational Effects on Unemployment Risks, Predicted Probabilities

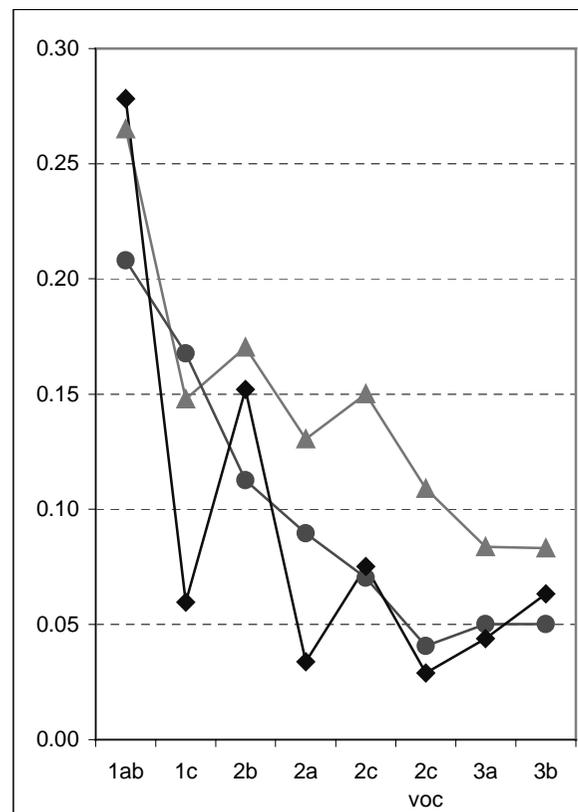
A) Predicted Probability of First Job, by Years on the Labour Market



B) Predicted Probability of First Job, by CASMIN Educational Qualifications



C) Predicted Probability of Unemployment after First Job, by CASMIN Education



▲ France
● United Kingdom
◆ West Germany

Notes: Predicted probabilities from bivariate probit estimation, calculated at the means of all other independent variables. Probabilities in Panel C are conditional probabilities $\Pr(Y_2=1 | Y_1=1)$.

Sources: Enquête Emploi 1994; Mikrozensus 1995; UK Labour Force Survey 1994; Entrants into the labour force, unweighted results.

There are more definitive results to be reported with respect to educational effects on successful job searches. Our findings indicate that both at higher levels of education and if vocational training has been completed, labour market entrants are more likely to find employment quickly. Stated this general, the effects hold for all three countries. But there is substantial cross-national variation in the performance of particular types of qualifications in particular countries. And as expected, country differences are observed in the effects of vocational training, rather than the role of general or academic tracks, which turns out to be reasonably similar across the three countries. Compared to leaving from general tracks at the same level of education, completing vocational training provides the by far largest relative advantages in Germany, followed by significant, yet smaller effects in France, and relatively minor effects in the United Kingdom. These country differences apply unequivocally to all three levels of secondary education as represented in the CASMIN scale. In fact, leavers from vocational tracks at any CASMIN level of education in Germany are even more successful in initial job search than university leavers. In France, the advantages of vocationally qualified leavers are still sufficient to render them more competitive than leavers from the next level of general education, while this does not hold true for all CASMIN levels in the United Kingdom. To sum up, a first effect of apprenticeships (being the dominant vocational training form in Germany) is clearly to enhance chances of immediate access to first jobs, which is little surprising as many apprentices will have the opportunity to stay with their training firm at least initially. At present, the precise institutional sources of the findings contrasting the effectiveness of vocational training in France and Britain have to be left for future research, as only a further disaggregation of CASMIN categories will be able to bring more definite answers to this issue.

Educational Effects on Subsequent Job Instability

Given that initial employment has been found, what are the educational effects on the likelihood of having had access to unstable employment only in the three countries? In fact, this question cannot legitimately be answered without any consideration of which kind of employment has actually been secured. As control measures for the types of jobs held by young people, we included a crude indicator of labour market segment position and whether or not the job is a fixed-term contract or temporary in any other sense.¹² Both variables perform as expected, although some country differences are also apparent. In general, individuals having entered professional or skilled employee positions (except for France), but also self-employment, are much less likely to become unemployed than those in unskilled occupations. The magnitude of these effects are generally largest in Britain, followed by Germany and France. Interestingly, countries differ remarkably in the insecurity implied by temporary contracts: while their effect on job instability is negative and insignificant in the German sample, and positive but relatively small in the United Kingdom, we find a large positive effect in the case of France. It

seems likely that this effect taps one consequence of the French alternance system, which provides unemployed young people with temporary work (and often training) contracts, but often represents a fairly precarious alternative to the primary labour market, so that such a 'first job' might be qualitatively quite different from its counterparts in Germany or even Britain (cf. more extensive discussions of this aspect in Goux and Maurin, 1998).

But coming back to our main question, what about the role of education for job instability? There is little doubt that important effects of education exist in all three countries, also after including our positional control variables. And again, and thus reinforcing educational effects on successful job search, the pattern found is one of relative advantages to both leavers from higher levels of education and vocationally qualified market entrants, with, again, important cross-national variation in this respect. In many respects, effects for West Germany and the United Kingdom are quite similar, as judged from both the probit parameters and the predicted probabilities. The main differences between these two countries lie at the lower secondary levels of education, while the patterns are near identical at the upper secondary and tertiary levels. Among leavers from CASMIN levels 1abc, respectively 2ab, differentiation between general and vocational tracks is particularly striking in Germany, but hardly present in the United Kingdom. Comparing similar leavers across all three countries, job instability risks are in fact largest among those leaving from compulsory education in Germany and France, while predicted probabilities for this group are lowest in the UK. The reverse situation applies to leavers from the vocational CASMIN 1c tracks, which enter extremely stable employment in Germany, but less so in both Britain and France. The same contrast appears between Britain and Germany at the intermediate level of secondary education. France, in turn, has the role of an outlier in terms of job instability, and especially so among the better qualified leavers. Among those with at least CASMIN qualifications 2ab and above, the probability of unemployment after initial employment has been secured is markedly higher in France than in any of the two other countries. Hence, higher levels of education protect labour market entrants to a lesser extent from labour market insecurity in France than elsewhere.

Summing up the results we thus have for both stages of our sequential model, it seems unlikely that sheer macroeconomic factors alone cause cross-national differences in youth unemployment rates. Instead, we found ample evidence that the effectiveness of achieving youth labour market integration varies between similar types of education across the three countries we have studied. Most obviously, the advantages of widespread apprenticeships in Germany are twofold: apprenticeships, first, avoid excessive periods of initial job search among young people, probably not the least to the fact that training firms might offer continued employment. But in addition, there is also evidence that apprenticeships allow access to particularly stable employment, and much more so than alternative equivalent types of training in both France and Britain, notably among leavers from lower levels of education. This suggests the presence of institutional rather than and in addition to macroeconomic

causes of low unemployment rates among market entrants in Germany: unemployment rates are low because a widespread apprenticeship system provides immediate access to reasonably stable employment to its leavers.

This is quite different to what we observe for both France and the United Kingdom, which appear rather similar with respect to initial job search processes. In fact, the peculiarities of genuine transition labour markets in these two countries are clearly indicated in the correlation parameters ρ , which are much lower for both countries, and even positive and insignificant for France, than the almost perfect correlation of the two stage process in Germany. As argued above, this is indeed a quantitative indication of qualitative differences in labour market structures faced by market entrants in the different countries: initial job search in Germany is integrated into the general labour market to a much larger extent than is the case for Britain, but even more so for France. In contrast to Germany, extended job search periods occur to a significant extent in both countries, and, even as educational effects on this process are substantial as well, there appears no single educational route which provides as definite advantages as available with the German apprenticeship system. Still, both countries differ remarkably with respect to job insecurity levels among market entrants. Initial jobs attained in Britain prove to be a lot more stable than those accessed by French labour market entrants, notably among better qualified leavers. From the present analyses, we cannot reliably trace the underlying sources of this observational difference, so this seems to be a promising issue for further study.

6 Summary

The main objective of this paper was to explore how young people's risk of unemployment is related to their educational achievement, and in what way this relationship is shaped by the institutional embeddedness of the education and employment system. For that purpose, a cross-national comparative perspective was applied. We were focusing on labour market entrants, as institutional differences are most pronounced at the margins of individuals' careers. The three countries selected (Germany, France and the United Kingdom) provide us with considerably variation in institutional characteristics of national education systems and the organisation of labour markets. In order to obtain a more detailed picture of the nature of the link between education and unemployment we distinguished two different career stages in our modelling strategy: the initial job search and the successive job stability.

Well in line with the other literature on the topic, we found substantial cross-country differences in national unemployment rates. Of stronger interest here however is the fact that the absolute rates faced by the lowest and the highest qualified school-leavers are fairly similar. This indicates that we have to do not just with macro phenomena but strongly implies important institutional differences.

Our analyses show for all three countries that young people's risk of unemployment in both the two stages is strongly related to their educational (non-) achievement and that both dimensions of education, general and vocational education, do provide advantages in terms of protection from unemployment. Besides these commonalities we however also clearly find that institutions do matter for the impact of education, both with regard to the way young people enter the labour market and the way single educational credits pay off. The three countries vary with regard to the overall extent to which education makes a difference and -closely related to that- in the precise pattern of the educational stratification of unemployment risks, that is the degree to which each of the two facets of educational attainment are valued.

Beside this more general findings we were able to report further detailed results of the way educational achievements are operating in preventing against unemployment. With that strategy of decomposing the unemployment risk in two temporary successive stages, it was also possible to capture *some* aspects of the labour market entry process even with our pure cross-sectional data at hand. We found substantial differences in the way labour market entry performs in the three countries going along with different use of educational credits in this entry period. While labour market entry in Germany takes place rather directly after leaving education, it is much more a function of time in the United Kingdom and especially France. At the same time integration into the labour market in Germany operates on a clear-cut qualifical base. The finding here can be put down to the sharp skill-divide between vocationally qualified and non-vocationally school-leavers. This confirms that in the German occupational labour market, vocational qualification provides a clear advantage over general education only on whatever level. The dual system provides a setting of vocational education and qualifications that allow a smooth, that is immediate transition into employment right upon completion of their training. Moreover, former apprentices seem to benefit from allocation to jobs which provide them with quite substantial security of employment during their early career. Thus, the dual system provides immediate access to already reasonably stable employment to its leavers. This result is an important supplement to the question of exactly how the dual training systems really operates. It became clear that it is the combination of fast integration and the assignment to stable positions. Given the wide spreading of this form of training in Germany it can be seen as one of the main reasons for overall unemployment levels being comparatively low. The reverse side of the employment security offered to vocationally qualified school-leavers in occupational labour markets, however, is the (relative) extent to which unqualified school-leavers are excluded from the labour market.

As expected, in France and the UK, transition into employment is less rigidly stratified according to educational achievement. Due to the prevalence of a separate youth labour markets rather than integrated occupational labour markets, there is no such polarisation of the chance structure as in Germany. Yet, compared to Germany, the level of education reached in the school system turns out to

be a relatively more important signal for securing employment. This comes along with a less smooth transition into the employment system in the UK and France.

Taking together both the separated career steps we find in all the three countries rather reinforcing patterns of educational stratification. The (dis)advantages attached to certain achievements in the education system tend to be reinforced over the course of people's careers: those school-leavers who have the best chances to enter the labour market also tend to have the best chances to profit from a fairly stable early career in terms of lower risks of losing their job. This is however far less the case in UK and France. A further result that sheds some light on cross-national differences in youth labour markets is the correlation between the two transition stages in the different countries. While both the steps are almost perfectly interrelated in Germany this is much less the case in the UK and especially not in France, indicating the stronger prevalence of a particular and separated youth labour market in these two countries.

Introductory we were posing the question about the cross-national differences in the overall stratification of unemployment risks by education and the contribution of the two educational dimensions in doing so. We can gain a final summary assessment of the comparative role of education in labour market entry processes from a variance decomposition of estimated parameter effects. The idea behind this is to provide a simple quantitative measure of the extent and nature of educational stratification, which can be compared across the three countries. From the respective figures given in Table 3 below, it is easy to see that educational differentiation is largest in Germany in both sequential stages of our model. France and Britain share similar levels of differentiation, although the British pattern is somewhat more pronounced at the second stage. But the more interesting information derives from decomposing this parameter variance into a variance between educational levels and one for the variance within educational levels but between general and vocational tracks. From this exercise, it becomes apparent that most of the educational differentiation in Germany is within rather than between levels, while the situation is the reverse in the two other countries. In somewhat different form, this repeats what has been shown beforehand: for successful labour market entry in Germany, vocational training rather than level of education is crucial, while variation across levels of education is dominant in both France and Britain.

Table 3: Variance Decomposition of Educational Effect Estimates

	France	United Kingdom	West Germany
Two-Stage Bivariate Probit Model			
Initial Job Search Equation			
$\sigma^2(\beta_{casmin})$	0.152	0.143	0.348
$\sigma^2(\beta_{casmin.levels})$	0.132 (0.87)	0.134 (0.94)	0.056 (0.16)
$\sigma^2(\beta_{casmin.tracks})$	0.020 (0.13)	0.009 (0.06)	0.293 (0.84)
Job Instability Equation			
$\sigma^2(\beta_{casmin})$	0.061	0.114	0.193
$\sigma^2(\beta_{casmin.levels})$	0.044 (0.72)	0.106 (0.93)	0.062 (0.32)
$\sigma^2(\beta_{casmin.tracks})$	0.017 (0.28)	0.008 (0.07)	0.130 (0.67)

Notes:

Variances are calculated from parameter estimates given in Table 2. The calculation distinguishes CASMIN 1abc, 2ab, 2c, and 3ab educational levels; CASMIN qualifications 1c, 2a, 2c voc, and 3a have been considered as vocational tracks. The relative importance of either variance component is indicated by the variance proportions given in parantheses.

Thus, we can confirm our expectation that education - mainly due to the strong impact of vocational training - is the most important in Germany while, at least at the career entry, avoiding unemployment is to a lesser extent a function of educational credits in France and the UK. In these countries values is assigned more to general education rather than to vocational one. We were also stating that education especially in France may simply come into play later. The less selective recruitment strategy we found here also implies that school leavers cannot immediately convert their educational resources into labour market positions (going along with a protection from unemployment) but instead need to wait until they were able to leave –probably due to their educational credits- the strongly separated youth labour market. Within our sample and with the given investigation we however find no evidence for education paying of to a stronger extent in France after initial labour market entry took place. This may be due to a too crude procedure or a too narrow time window.

In this analysis we were focussing on a single point in time (the early 1990s) covering a rather narrow observation window (seven years). But the reported patterns are not just a product of a snapshot from one single point in time and anything but a transient phenomenon. This view is strongly suggested by further results we have gained from a comparison with data for the 1980s, which clearly show that the pattern of cross-national variation remained fairly stable. Despite both macroeconomic changes and a tremendous expansion and reform of education over the past decade, almost the same patterns we have found for the 1990s also existed in the mid 1980s: while the absolute risk of unemployment has increased among all educational groups in all countries, the relative distribution of unemployment among the different school-leaver groups has remained fairly stable, and the effectiveness of particular types of education in integrating youth into the labour market seems to have little changed in most cases.

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Endnotes

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- ¹ The classification of the three labour markets is an ideal-type description. Since our analysis proceeds at the national level, it intends to express the predominance of a certain labour market type in a given national setting. All three labour markets are indeed made up of occupational as well as firm-internal labour market structures (see Kalleberg/Berg 1987).
- ² One may point out a cross-national bias with regard to the definition of what is considered “initial education”, what “employment activity”, arguing that dual system training implies one’s transition into working life rather than being part of one’s initial education. In our work, vocational education in the framework of dual system training is understood as part of one’s initial education (see section 3 for the construction of the sample and the definition of education categories). Dual system training certainly involves employment – but employment as an apprentice whose employment contract in combination with theoretical instruction in vocational schools in first place serves the purpose of educating and training the young person in a specific occupation. Dual system training is one possible institutional framework in which vocational education can take place - and chosen to be the favourite one in Germany, while it is not the case in France or the UK. In addition, the employment situation of apprentices has a specific quality as compared to regular employment contracts insofar as employer-initiated dismissals are not possible. With respect to the issue of unemployment risks, it is therefore somewhat misleading to think of apprenticeship contracts as regular employment. For our cross-national comparison, comparing the risks of unemployment between vocationally qualified school-leavers in the three countries means to compare the extent to which different kinds of institutionalization of vocational education and training secure employability to holders of vocational credentials.
- ³ In fact, most LFS surveys do have a longitudinal component due to the fact that rotating samples are regularly used. So, actually, LFS respondents participate in several quarterly or annual replications of the surveys, which would allow the construction of genuine panel data. Scientific use of personal ID data which would allow to link respondent information across survey waves is, to our information, currently not possible in the three countries under study, however.
- ⁴ The German proxy measure was calculated by assuming 9 years of schooling for completion of Hauptschule, 10 years for Realschule, and 13 years for Gymnasium. To this, 2 to 3 years of training were added in case of participation in the vocational training system (dependent upon general qualifications present), and university degrees have been taken into account as four, respectively five additional years of education (Fachhochschule versus traditional university degree). An additional year has been added to cover participation in compulsory national service for men. The most problematic approximation made seems to occur at the level of university graduates: as university studies are much less structured than any other branch of the German educational system, the variance of leaving ages is likely to be quite high. As a consequence, we are likely to observe a positively selected sample of German university graduates in our study; but as both the theoretical interests and the empirical results will mostly focus on cross-national differences at the secondary level, we are less worried by this likely misspecification.
- ⁵ In addition to the models to be presented below, we have also estimated models which included the aggregate unemployment rate in the entry year so as to control for potential cohort effects due to macroeconomic differences. The respective effects worked in the theoretically expected ways, but were small in absolute terms, and most importantly, did not at all affect the stratification patterns of interest here.

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- ⁶ This also includes individuals presently out of work and not searching, but about to take up a job in the near future.
- ⁷ Education is measured at the date of the survey. Given that part-time further education in the UK (and partly in France) is fairly uncommon, this could mean that we overestimate the educational achievements at the very beginning of the career. With regard to the classification of apprenticeship training, see footnote 2 on behalf of the definition of initial education as compared to employment activity.
- ⁸ More precisely, we use information on the current job for all those currently employed, while we refer to information about the most recent job in case of the unemployed.
- ⁹ To include the time variable into the second stage equation would imply the assumption of cohort effects on job instability, which would contradict our earlier assumptions. In addition, empirical identification of the models is greatly eased by applying different covariate vectors in both equations.
- ¹⁰ Taking unemployment rates in the total labour force as an indicator of general macroeconomic conditions, one may also note that the three countries have been relatively similar in the mid-1990s, at least much more similar than the above comparison would suggest. In 1994, unemployment rates were at 6.7% in West Germany, 12.3% in France and rising in both countries, while peaking at 9.5% in the United Kingdom (OECD 1997).
- ¹¹ The established differences have certainly to be regarded as genuine macrolevel variation. In additional analyses, we found only very limited evidence of any interaction between individual qualifications and this measure of time dependence in any one country, and certainly no significant interactions in Germany. These results are available from the authors on request.
- ¹² In doing so, we treat job allocation patterns as exogenously given in our model. Consequently, we do not claim to have established causal effects of job positions in the model, but rather attempt to control for the association between jobs types and unemployment risks in assessing educational effects on the second stage of our model. In fact, we thus also ignore potential country differences in the relation between education and type of first job (e.g. Müller/Shavit 1998; Brauns/Müller/Steinmann 1997; Kerckhoff, forthcoming for a relevant discussion) for the purpose of keeping the model relatively simple.