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ABSTRACT

This paper explores educational stratification of unemployment in early labor market career; its institutional embeddedness in specific education and employment systems; and youth unemployment in France (F), the United Kingdom (UK), and West Germany (G), which greatly differ relative to major institutional characteristics of education systems and labor markets. Analyses use national Labor Force Surveys data to assess recent trends. The paper relies on single-stage and sequential logit models to estimate effects of individual educational achievement on unemployment risks and presents evidence of a sharp distinction between the educational stratification observed in G, F, and the UK. Findings indicate the following: (1) labor market entry occurs smoothly and immediately for vocationally qualified leavers in G, with extensive search for first jobs confined to the least qualified; (2) after initial employment in G, education plays a negligible role for risk of unemployment, which is more tied to features of employment positions; (3) in F and the UK, the match between qualifications and jobs is less clear-cut and level of education provides advantages in terms of less search unemployment and lower job instability, yet differentiation is much less pronounced; (4) in F and UK, education effects maintain positive impacts on job stability, suggesting a more gradual match between qualifications and attainment; and (5) results are stable for both time periods, indicating idiosyncratic changes in the educational stratification of youth unemployment. (Contains 58 references.) (YLB)

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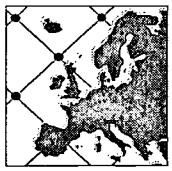

Education and Unemployment:

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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. For the sake of comparative analysis, the paper investigates youth unemployment in France, the United Kingdom and West Germany as these three countries differ greatly with regard to major institutional characteristics of their education systems and labour markets. The analyses use microdata from national Labour Force Surveys of the mid-1980s and the mid-1990s in order to allow an assessment of recent trends in addition to comparative analysis. Methodologically, we rely on single-stage and sequential logit models to estimate the effects of individual educational achievement on unemployment risks. As a result, we are able to present evidence of a sharp distinction between the 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. After initial employment has been found, education plays a negligible role for the risk of unemployment which is much more tied to features of employment positions. 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. In addition, education effects maintain positive impacts on job stability even controlling for positional characteristics, suggesting a more gradual match between qualifications and attainment. Results are found to be stable for both time periods, indicating idiosyncratic rather than secular changes in the educational stratification of youth unemployment over the last decade

Contents

1 Introduction*

In many European societies, the rising incidence of youth unemployment has been one of the major social problems since the 1970s. A significant number of young people experience unemployment after completing their education, are likely to be unemployed again years later and to face extended periods of social marginalisation during their early career. While investment in education has traditionally been seen as the best means for young people to secure a good job, the formal education and training system is presently subject to severe criticism for its deficiencies in endowing school-leavers with marketable skills. Against this background, it is a central concern of both policy makers and social science research to explore why young people have these difficulties in getting and keeping a job, how educational credentials bring them "in the door" (Bills 1988), and in what way distinctive arrangements of the institutionalisation of education make a difference in securing "employability" for school-leavers.

The present paper analyses the incidence of youth unemployment in view of individuals' educational achievement, and explores how the educational stratification of unemployment varies across countries and across time in the course of educational expansion. The countries to be compared are West-Germany, France and the United Kingdom. The three countries have all experienced massive educational expansion over the last years, but still differ considerably in the institutionalisation of their education and labour market systems. While the cross-national perspective will shed light on the impact of the specific institutional environment on the labour market value of single educational credentials, the historical perspective is supposed to give some clue of the extent to which this value depends on the educational resources of all other job candidates in the market, or in other words, on the relative scarcity of the achieved credential.

Despite a substantial amount of comparative work on individual education returns on the one hand, and of research on unemployment on the other, the two lines of research are hardly connected. Most comparative work on individual education returns focuses on work related outcomes such as income, occupational prestige, social class position or access to so-called ‚good' versus ‚bad' jobs. Still, in times of slack labour markets, it is essential to also investigate in what way educational credentials help people get in the door at all. Micro-level comparative research on unemployment, by contrast, is sparse. The few existing studies are almost exclusively restricted to German-American comparisons and typically focus on individual dynamics of unemployment, the issue of duration dependence and on

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the role of benefit disincentives. The present paper aims at contributing to this research gap. It will be guided by the following main questions:

Which role does education play with regard to young people's risk of unemployment? To what extent does the importance of educational credentials depend on the career stage in which individuals are at risk of unemployment?

Do we find evidence of distinct national linkages between education and unemployment risks? If so, in what way does the institutional set-up in the three countries shape the educational stratification of unemployment risks?

How does the increased supply of school-leavers with higher education in the course of educational expansion affect the distribution of unemployment risks? Is there a common secular trend across nations?

The remainder of the paper proceeds as follows: The next section presents theoretical perspectives and central research questions 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-1980s and mid-1990s.[1] Empirical results are the subject of sections 4 to 6. Section 4 gives descriptive results on overall levels and types of unemployment at the two times of inquiry in the three countries. In sections 5 and 6, the risk of unemployment is related to educational achievement. In a first step, the rate of unemployment experienced by each education group and the respective distribution of relative advantages and disadvantages according to education are compared across time and country. In a second step, we go a little further into the details of unemployment risks in early labour market careers, starting from the idea that the benefits/risks attached to formal education per se depend on the career stage in which the individual is at risk of unemployment. It will be argued that formal education is a highly important and differentiating resource for school-leavers who are searching for their first job immediately upon leaving school, while it is a still significant, but less stratifying asset once young people have succeeded in finding employment, and thus transformed their educational resources into positional resources that more or less protect them against unemployment. The extent, however, to which formal education matters more in the hiring-stage than in the stage after job-placement has taken place is expected to vary between countries due to institutional differences in the education and employment systems. The paper concludes with a summary of the empirical results.

[1] Surveys from the mid-1980s and mid-1990s are chosen because both periods depict periods of peak unemployment in each country. The more tense the labour market situation, the stronger the competition for jobs and the more demanded background characteristics escalate due to selective hiring (Thurow 1975). We should then be able to identify strong effects of education and potential differences in the pattems across countries. Furthermore, the similarity in labour market situation across time allows us "to hold constant" business cycle effects, and, thereby, to capture the effects of educational expansion.

2 Theoretical Perspectives

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 (Mincer 1994; Spence 1973, 1981; Kettunen 1994). Signalling and screening models argue that employers hire, place and promote workers on the basis of imperfect information about their true productivity (Stigler 1961; Arrow 1973; Spence 1973 among others). Educational credentials are interpreted as a filter that serves primarily as a measure of performance ability for the employers, important to the extent that other reliable indicators are lacking. Thurow's (1975) "queuing" version of screening theory contends that employers rank order the desirability of job candidates according to their trainability fore given jobs. Credentials indicate which job candidates are most and which are least likely to be trained for a given job. Individuals are distributed across job opportunities on the basis of their relative position in the labour queue. In times of labour surplus, school leavers who are placed at the bottom of the labour queue will be unemployed.

Educational achievement, however, has many dimensions that may signal competence or incompetence for a given job. As a regularity, we assume that

H1: the level of general education reached and vocational specificity of the degree earned make a difference for one's chances of being offered a job.

First, employers look for information about job candidates' general cognitive capacities to learn new skills and to adapt to new technical environments. Therefore, they rely to some extent on the sorting done by the educational system, since educational processes already involve long periods of screening and subsequent selection (Jencks 1972). Second, employers are in search of employees who already have some expertise for the tasks at hand, in order to minimise the costs of training into the job. Achievement of vocational skills should then also be valued on the labour market.

Employers do more than just the educational screening, however. Gender, date of school-leaving and prior work experience, to the extent that information is available, are other important sources of information about employees in labour markets. The question is what weight is placed on education as screening device and to what extent this depends on the circumstances under which young people are at risk of unemployment. According to the reasoning of Thurow (1978),

H2: educational achievement should be a more differentiating resource for initial hiring into the labour force than after first job placement has taken place, that is for workers with prior job experience.

The relative weight of education is thus assumed to be dependent on the individual's career stage. Upon school-leaving, when job-related performance records are not or only scarcely available to employers, they tend to rely primarily on the candidates' performance in the education and training system. Once the candidate has been employed and has succeeded in transforming his educational resources into positional resources, which more or less protect him against unemployment, the role of

education as performance *indicator* should to some extent be superseded by direct performance records. Nonetheless, we expect educational achievement also to have an effect after employment has taken place. First, plausible information about individuals' productive capabilities unfolds only slowly with time. Therefore, in the early labour market career, education is continuously used as an important screening device in employers' personnel decisions. Second, due to environmental pressures employers also reward credentials as a matter of firm policy (Spilerman 1986). Third, credentials are rewarded for their social value (Spilerman and Lunde 1991; Collins 1979; Bowles and Gintis 1976). Credentials indicate conventional standards of sociability, the ease of adapting to new tasks and the capacity to internalise organisational rules and firm culture which makes their holders "promotable".

Thurow (1975: 93ff) also argues, however, that the concrete shape of the labour queue, i.e. the ranking order of school-leavers and the "distance" between them, is determined by two factors: employer preferences for certain credentials and the distribution or dispersion of educational achievement among the job candidates. Referring to the first factor, larger differences in the benefit/risk pertaining to the various educational credentials may result if employers have a pronounced preference for certain credentials. This "preference" for certain credentials over others, that is for certain facets of educational achievement, is significantly shaped by institutional features of the national education system, the labour market and their interrelationship (see Breen et al. 1995; Müller/Shavit 1998; Brauns et al. 1999; Kerckhoff forthcoming, 1996; Hannan et al. 1997). Overview 1 gives a description of the educational systems in the three countries and their link to the labour market.[2]

As a consequence of substantial cross-national differences in the institutionalisation of education and of labour market systems, employers' "preferences" for certain facets of educational achievement should vary between the three countries.

In Germany, occupational labour markets prevail in which jobs are clearly defined in terms of content and occupational skill requirements. Therefore, we expect German employers to primarily reward occupational significance of the achieved certificate when selecting among job candidates.

H3: compared to school-leavers with general education only, vocationally qualified school-leavers should profit from substantial advantages with regard to labour market entry.

Vocationally qualified school-leavers profit from a number of advantages compared to school-leavers with general education only. First, given that apprenticeship-training is by far the most widespread form of vocational education in Germany, vocationally qualified school-leavers are highly skilled in an occupation, already socialised into working life and into the organisational culture of the company.

[2] The classifications of the three labour market types are only ideal-type descriptions. Since the analysis proceeds only at the national level, it intends to express the predominance of a certain type of labour market structure 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).

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 said to be closely linked to the strong emphasis on vocational training in the German education system, which confers highly standardised, occupation-specific qualifications. The large majority of German school-leavers, from all levels of general education, have completed vocational training which predominantly takes place within the dual, that is the apprenticeship training system. The dual system provides a high degree of homogeneity throughout the system. It is organised along the lines of occupations, almost 400 in the skilled trades and administration, industry, services, agriculture, health etc. Compared to vocational education systems in most other countries, the German system is not hierarchically stratified, in that hierarchical qualification tracks are offered which require specific attainment in the general education system for admission. Although pupils' choices of occupations to be trained in is not regulated by educational policy, one's level of general education attained largely determines the chances and choices made. Overall, the concept of a „Beruf" (an occupation) is 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 revealed to be 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 internal labour markets. In contrast to occupational labour markets, job design and skill requirements are highly firm-specific. In internal labour markets, recruitment takes place into a limited number of entry points, found at the bottom of firm-specific job ladders. On these ladders individuals may gradually progress from one job to the other which entails the progressive development of skills and knowledge. 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, however, vocational education facilities have been expanded and modernised. Yet, vocational training is still combined with a preference for the schoolroom over the workplace for vocational preparation. 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 forthcoming). From the institutional interweaing of vocational and general education and the selection regime in the French education system (see Brauns 1998) it follows that achievement of vocational qualification is highly related to (non-)achievement in the general school system. 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. 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.

Second, apprenticeships serve a screening function. With apprentices, employers have drawn on a two- to three-year period of intensive face-to-face screening and can make their hiring decisions with considerable confidence about job applicants' productivity. Third, the German dual system functions along market rules insofar as training capacities depend on companies' willingness to offer training places. As a consequence, young people who were offered an apprenticeship have good chances to be taken on by the company afterwards. Fourth, the dual system training is highly standardised nation-wide. Vocational qualification certificates confer highly reliable information about the apprentices' skills even for employers who hire other companies' apprentices.

In France and the UK, firm internal labour markets rather than occupational labour markets are predominant. Compared to Germany, this implies a limited importance of apprenticeship-training, a lower standardisation of jobs across firms and a less "institutionalised" linking of school-leavers' labour market opportunities to their educational achievement. In consequence, occupational skills are supposed to be relatively unimportant for recruitment into the first job. Instead, employers should look for signals indicating job candidates' cognitive capabilities to be trained for the firm-specific tasks.

H4 In France and the UK, labour market entry is expected to be less selective but also less "smooth" than in Germany. Rather than valuing vocational qualification, employers in these countries should screen job candidates according to their level of education reached.

In internal labour markets, school-leavers should not find themselves excluded from being hired simply on the strength of their educational (non)achievement. In return, since entrants have not yet developed the skills that are required for the job at hand, entry is typically confined to the "bottom" of internal career ladders, often implying a "qualification-inadequate" occupational position and a temporary employment contract. The benefit pertaining to specific credentials typically comes into play later, in the light of the internal regulation of careers, .when it comes to decision about promotion and continued employment. This should particularly be the case in France. France is a country with a strong credentialist tradition where formal education plays an important role with regard to legitimising peoples' social standing and career (Brauns 1998). This credentialist orientation has been reinforced by state employment policy by means of a national "qualification-grid" aiming at establishing "correspondence" between people's educational performance and their employment situation.

Occupational labour markets, by contrast, are characterised by a "structured" transition from training into employment, namely one into a regulated, standardised career line. Due to the institutionalised link between types of educational pathways and occupational "entitlement", vocationally qualified school-leavers who are offered a job in their occupation are almost sure to secure a "good" job match. Therefore, once people are hired into the closed system, they convert their educational resources into certain positional, labour market related resources. Chances of career advancement and of security of employment are now closely tied to these positional resources rather than to formal education. Hence,

H5: net of the employment position that an individual occupies in the labour market, continued employment in the German labour market is expected to be far less dependent on the

employee's educational resources than is the case in the British and especially the French labour market.

The second factor that Thurow (1975: 93ff) emphasises as shaping the labour queue is the distribution or dispersion of educational achievement among the job candidates. All three countries have experienced a massive expansion of education over the last decades due to which the average educational attainment of job candidates has increased substantially. What does this development imply for different educational groups with regard to their exposure to unemployment? The job competition model assumes that employers' skill requirements are responsive to changes in the relative supply of different skill groups. As a consequence of educational expansion, employers will attempt to acquire higher quality labour than in earlier periods. More of the preferred higher educated groups will then be filtered into lower-paying and unstable jobs than in earlier times, which have previously been allocated to lower qualified school-leavers. In a chain reaction, the latter are then increasingly pushed out of the labour market. Assuming that there are no offsetting changes in the demand side of the market[3],

H6: in times of labour surplus, educational expansion should foster increasing difficulties of labour market entry especially among the lowest qualified.

Following the argument made above on the role of the institutional context, however, it seems plausible to expect the consequences of educational expansion for particular educational groups to vary across countries. We have no specific hypotheses on country differences in the impact of educational expansion. The empirical analysis should shed some light on this issue.

3 Data and Methodology

The empirical analyses draw on micro data from national Labour Force Surveys (LFS). Labour Force Surveys provide detailed information about the current employment situation and details about the educational achievements as well as, though to a limited extent, information about previous employment situations. They have many advantages in comparative research: the surveys share central methodological proceedings, a core set of questions and measurement set-ups. This commonality makes them very valuable for constructing cross-nationally and historically comparable indicators. In addition, the huge sample sizes available in the LFS allow for precise statistical estimation and detailed analyses of different education groups. In this paper, we use the 1994 and

[3] However, the actual distribution of employment chances among school-leavers is not only a function of the labour queue, supply-side characteristics, but also of the distribution of job opportunities, that is the availability of jobs with specific skill requirements. In other words, demand side factors may also generate a change in educational requirements over time. In this paper we will not be able to empirically disentangle the many factors that may create changing returns to single credentials: reform of the institutional set-up of education system, changes in the skill dispersion among cohorts of school-leavers, demand side factors due to technological development and sectoral change etc. The aim of this paper is to capture the combined outcome of all processes.

1984 Enquête Emploi for France, the 1994 and 1984 Labour Force Survey for the United Kingdom, and the 1995 and 1982 Mikrozensus for Germany. The German samples are confined to the West German population, given the specific situation in the former GDR, which would require separate investigation.

This paper analyses unemployment risks in individuals' early labour market career, or as we call it, in the transition period from school to work[4]. The primary focus, however, is not on explaining the dynamics of unemployment, but on the impact of education on the unemployment risk in the early career[5]. In our definition, the transition period embraces up to seven years after school-leaving. In detail, we include those persons in the sample who left the education and training system within the last seven years before the date of inquiry. This sample selection is derived from information on the year of leaving full-time education available in the French and British surveys[6]. Since the German surveys do not offer similar information, the date of completion of initial education and training was calculated synthetically. Given the stratified nature of the educational system, this strategy seems reasonably justified[7]. As a result of this restriction and after excluding individuals not in the labour force (for definition see below), in military service or in institutions, we have total sample sizes of 13.047 (France 1984), 11.767 (France 1994), 15.527 (United Kingdom 1984), 11.465 (United Kingdom 1994), 42.684 (Germany 1982)[8], and 19.494 cases (Germany 1995).

For the definition of the labour force, we basically adopt the ILO definition with slight modifications[9]. Unemployment is measured following the ILO convention, as being jobless but available for taking up paid employment within two weeks, and actively searching for a new job[10]. Education is measured by the CASMIN scale developed for comparative research (Brauns/Steinmann 1999; Müller/Shavit 1998; König/Müller/Lüttinger 1988 for the original conception). We apply the eight-category version of the classification that is shown in table 1. The scale distinguishes hierarchical levels of attainment and differentiates between 'general education' and 'vocationally-orientated' tracks. Therefore, the CASMIN classification allows for the straightforward representation of non-linearities in the impact of education (see Braun/Müller 1997).

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[4] We also use the terms ‚youth unemployment' or ‚unemployment risks in early career' interchangeably throughout the paper.

[5] So, the perspective is one on the stratificational power of education in the different countries with regard to the risk of unemployment as one possible labour market outcome among others.

[6] This definition explicitly excludes those in apprenticeship. We applied an additional correction for those who completed some work-based apprenticeship or other youth training, since the original question does not make any reference to such tracks. The correction consisted of adding two years to the date of leaving full-time education in the case of leavers from apprenticeship training in France, and of leavers from apprenticeships or youth training in the United Kingdom.

[7] This 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). It is also corrected for young males' participation in compulsory national service.

[8] For the 1980s LFS in Germany we can draw on a larger sample size, namely a 98% sample. To take into account that these data are given in table format, a weighting had to be introduced (Frenzel/Lüttinger, 1990; Statistisches Bundesamt, 1982).

[9] Individuals participating in the education and training system irrespective of their detailed status are not regarded as belonging to the labour force; individuals who are in full-time education or work-based apprenticeship-type programmes (Apprenticeship or Youth training) at the time of the survey are thus excluded from all analyses.

[10] Individuals who are presently out of work, but about to take up a job in the near future are included among the unemployed as well according to the ILO-Definition.

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 the empirical analysis we adopt different perspectives focusing on the link between education and unemployment. Following a first description of the phenomenon in each of the three countries with regard to overall levels, duration and reasons of unemployment, we explore the role of educational achievement. Cross-national differences and changes over time in the link between education and unemployment in the early career are investigated with regard to absolute rates and relative risks. Absolute rates of unemployment within single education groups are supposed to give an intuitive understanding of the actually experienced risk of exposure to unemployment. Odds ratios are referred to in order to have a precise understanding of relative unemployment risks, or – put differently – inequalities in the exposure to unemployment among the various educational groups. Odds ratios express the competitive (dis)advantage that holders of a specific educational credential have relative to others with regard to the risk of unemployment. They are derived from logistic regression models which are applied to our total sample populations.

In a complementary step, we explore the role of education in more detail by considering the circumstances under which individuals are at risk of unemployment. We differentiate between two sequential situations: the initial search period and the (in)stability of the early career after a first entry into labour has taken place.

The first stage focuses on the risk of failing to enter the labour market at all. It is the hiring situation immediately after school-leaving where the individual searches for his first job. At this stage, since the job candidates have no previous job experience, employers are supposed to rely on job candidates' educational achievement as major performance indicator. The second stage is the situation after successful labour market entry, in which the person is at risk of losing the job (being laid off in most circumstances) and not being re-employed. At this stage, the candidate has obtained initial work experience which the employer can draw on when deciding about displacement or re-employment. At the same time, the candidate has succeeded in transforming his or her education into positional resources which – per se – more or less protects him or her against labour market exclusion. While the first stage is a pure recruitment situation the picture is obviously more complex with regard to the

second step. At this career stage, unemployment risks arise from different processes, namely firing, quitting and not being re-employed.

More precisely, we distinguish the two stages based on the information whether an individual ever has had a paid job before. The first stage includes all individuals and contrasts those who are presently unemployed without having taken up any kind of employment before against those who already succeeded in finding a job, regardless of the fact whether they are employed or unemployed at the time of inquiry. Information about individuals' date of completing their initial education and training allows us to control for the time since leaving the ETS. Thus, in the first step, we model the probability of having found employment, or in other words, the probability of still being in the state of initial search unemployment at the time of inquiry, subject to individuals' educational achievement and the time since leaving the ETS. In the second stage, we focus on the probability of unemployment after a first transformation of education resources into job resources has taken place. We therefore include only those respondents in the sample who have already taken up paid work at the time of inquiry. This allows us to assess the (in)stability of the early career, depending on individuals' educational achievement and characteristics of their job. Given the cross-sectional character of LFS data, even with this partition we are only able to estimate the equilibrium outcomes in each stage, not the underlying actual processes taking place. It seems worth emphasising that LFS do not provide longitudinal information about the whole period after leaving the ETS[11]. Thus, what we measure in the first stage is not the duration since people first entered employment but the likelihood of already having been in paid employment at the date of inquiry. With the second stage we assess the probability of not having found reemployment at the time of inquiry for those who lost or quit their previous job and not the *general* incidence of unemployment.

Two separate logit models are applied to estimate the effects of education at either stage. While the first step controls for waiting time after completion of initial education and training, the second step takes individuals' labour market position and contract situation into consideration. The labour market position distinguishes between jobs in the unskilled, skilled and the professional segment or in self-employment, drawing on information about the preceding job for those who are currently unemployed. The classification is based on EGP class position (Erikson/Goldthorpe, 1992; Brauns/Haun/Steinmann, 1997) and information about the employment sector. Details are given in the tables in Appendix A1. The contract situation considers temporary contracts in contrast to non-limited employment situations.

[11] This also means that we include people at different stages in their early career in our sample, and that we are not able to disentangle cohort, period and age effects. But with the rather narrow observation window of up to seven years since leaving the ETS it seems reasonable to expect age effects dominating.

4 Unemployment at Labour Market Entry: an Overview

The resurgence of persistent unemployment has been a common European experience during the past two decades. In many respects, young people have been severely affected by the employment crises of the 1980s and 1990s: youth unemployment rates are regularly found to be substantially higher than those of the adult labour force (Layard et al. 1991; OECD 1996), the smoothness of labour market integration is often claimed to be strongly affected by prevailing structural conditions (e.g. Blossfeld 1989) and whether such difficulties at entering the labour market inflict permanent 'scars' on subsequent employment histories is a constant issue of intensive research and concern. However, many observers also argue that cross-national differences in youth unemployment are much more pronounced than among the adult work force (cf. Layard et al. 1991), which could actually provide a first hint to effects of institutional arrangements of market entry operating here. What then can we tell about such differences in the level and structure of youth unemployment between France, the United Kingdom and West Germany on a descriptive level? As is apparent from the results presented in table 2 below, the overall picture is indeed in many respects one of significant differences between the countries in terms of major aspects of unemployment patterns.

Considering the results in more detail, the risk of unemployment itself, first of all, is smallest in Germany, where unemployment rates were at 9% in 1982 and 6% in 1995. In contrast, unemployment rates were highest in France with some 23% at both points in time. The United Kingdom occupies the intermediate position: unemployment rates were 20% in 1984 and 18% in 1994. Youth unemployment has thus been a quite substantial problem in both France and the United Kingdom throughout the last decade, while labour market entry has been considerably smoother in West Germany. Additionally, unemployment has been slightly more prevalent in both Germany and the UK under the economic recession of the 1980s than in the 1990s, while we observe similar levels of unemployment in France for both points in time (cf. also OECD 1996). Judged from the duration of current unemployment, it is not just the level of unemployment which differs between the countries but also the seriousness of market exclusion faced in the transition from education to work. Clearly, concerns for exclusion are appropriate already at this early career stage as the evidence on extended periods of unemployment shows: summing the proportions of those long-term unemployed and those having returned to unemployment within the last year, between roughly one third of the unemployed in Germany (also assuming some 10% of recurrent unemployment) up to half of the unemployed in the UK are facing serious problems in becoming integrated into the labour market. It is remarkable again that even against a very favourable overall situation, the picture is again especially favourable with respect to young Germans entering the labour market, for whom unemployment – if it occurs – tends to be shorter than in both France and the United Kingdom. In turn, the severity of early exclusion tends to be highest in the UK. Even as there is a slight convergence in these indicators over the last decade, these stylised facts hold for both the mid-1980s and the mid-1990s.

Apart from these differences in the level and severity of the youth unemployment problem, the simple breakdown of the situation before current unemployment reveals a most intriguing difference in the ways unemployment risks occur early in employment careers. The distinction among the currently unemployed between labour force entrants and experienced young unemployed is most helpful in this respect as it initially taps an important distinction which will be followed in more detail later. Specifically, it triggers the distinction between the two major components of unemployment in early

labour market careers, namely *search for first employment* and *instability of initial employment contracts*. As is apparent from table 2, both components are important in the three countries: obviously, there is more to unemployment risks in early employment careers than just difficulties in locating a first job. In all countries, there is a significant proportion of experienced unemployed who became unemployed after initial work involvement due to instability of initial employment found. Of course, the relative importance of either type of unemployment directly depends on the observation window chosen here, thus any face-value interpretation has to be avoided. Nevertheless, from the estimates given in table 2, it seems that the relative importance of the search component increased over the last decade in the United Kingdom, while it decreased in France.

Table 2: Unemployment Patterns in the Transition from Education to Work

	France		Germany		United Kingdom	
	1984	1994	1982	1995	1984	1994
	%	%	%	%	%	%
Unemployment Rate	22,8	23,5	8,6	6,1	19,6	17,9
Long-Term Unemployment	33,7	29,7	15,6	22,5	46,2	40,0
Recurrent Unemployment	10,9	10,4	N/A	N/A	7,8	8,1
Reasons for current unemployment						
Labour Force Entrants	39,3	32,0	33,4	35,5	41,1	47,8
Given Up Self-Employment	0,6	0,5	0,7	0,9	2,9	3,4
Former Employees	60,1	67,5	65,9	63,6	56,0	48,8
- Thereof: Had Temporary Contract	53,8	65,5	N/A	24,7	20,7	14,1
N Unemployed	2.956	2.726	3.068	1.096	2.825	2.011

Notes on definitions applied:
Long-term unemployment defined as the fraction of current unemployment lasting 12 months or longer;
recurrent unemployment defined as the fraction among the currently unemployed whose unemployment lasts less than 12 months, but who were in unemployment 1 year ago as well; this figure could not be estimated from the German data due to lacking information on status one year ago;
reasons for current unemployment are exclusive, only the major alternatives are presented;
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

Finally, investigating briefly the type of employment held by experienced unemployed, however, leads to the recognition of a remarkable difference in the initial unstable employment experiences in the three countries. In all countries, self-employment among youth is negligible as preceding the occurrence of current unemployment. A significant difference does show up, however, among former employees. Here the major contrast is between France on the one hand and Britain and West Germany on the other. In comparative perspective, the very high percentage of 54% (1984) up to 66% (1994) of former employees in France who entered unemployment because a prior temporary contract came to an end is unparalleled in the two other economies. It seems most likely that the French system of *alternance* between participation in labour market programmes and open unemployment

and the prevalence of fixed-term contracts at the entry stage seems to find its expression here. To sum up, this short overview has already provided some indications that youth unemployment differs between the three societies in many important respects: it is much more than simple differences in the levels of unemployment, but there are issues of differences in the severity of exclusion as well as with respect to the relative importance of search unemployment, initial employment experiences and the instability of initial employment. We will pursue some of the implications in subsequent analyses. As an intermediate step, we will proceed to present comparative results on educational differentials in unemployment risks.

5 Unemployment Risks and Education

The core assumption underlying our study is that the incidence of unemployment is highly related to individuals' educational achievement. In most countries, this is a firmly established empirical regularity (specifically for the case of youth unemployment see e.g. Franz et al. 1997; Handl 1996; Helberger et. al. 1994; Winkelmann 1996; Ashton/Sung 1992; Bynner/Roberts 1991; Evans/Heinz 1994; Ruiz-Quintanilla/Claes 1996). In our study, the focus of interest will therefore be on precisely *how* education affects the incidence of unemployment in initial labour market years and on the *similarities and differences* in this respect between the countries. Furthermore, we explore how educational differentials in unemployment risks have evolved over the last decade. In the presentation of our findings, we will focus first on current differences between the countries, while the issue of trends in differentials will be taken up afterwards.

As a starting point for our analyses, figure 1 below provides evidence on the educational stratification of unemployment risks in the three countries. The figure presents empirical results in terms of both the qualification specific unemployment rates and the relative advantages provided by different types of education with respect to the incidence of unemployment. Absolute unemployment rates are shown in the panels on the left, while results on competitive advantages provided by qualifications are presented in the panels on the right. The latter are given in terms of reciprocal odds ratios of unemployment incidence among different educational groups as compared to risks of those with compulsory education only. That is, the higher the effects shown, the smaller the relative risk of unemployment among leavers with a certain educational background as compared to the lowest qualified. These estimates are derived from logistic regression models which only include education and a gender main effect (cf. Appendix A2).[12]

The analyses reveal both cross-national similarities and dissimilarities. The *commonalities* between the three societies refer to five aspects of the observed stratification patterns: (1) the occurrence of *very high unemployment rates for the least qualified* labour market entrants, (2) *substantially lower unemployment rates for tertiary-level graduates*, (3) the *relative advantages provided by tertiary education* within the different education and training systems, (4) an *inverse, although not necessarily*

[12] The figures present estimates in terms of relative advantages provided by different levels and types of education. To provide a reading example: the figures give the relative advantage in terms of unemployment risks as compared to the lowest qualified. That is, unemployment risks of French university graduates (CASMIN 3b) are roughly 7 times less than those of the lowest qualified (CASMIN 1ab). The figures can be gained by inverting the exponentiated logit coefficients from Appendix A2.

linear relation between the level of general education and unemployment risks, and (5) the *role of general versus vocational qualifications* at the different stages of secondary education.

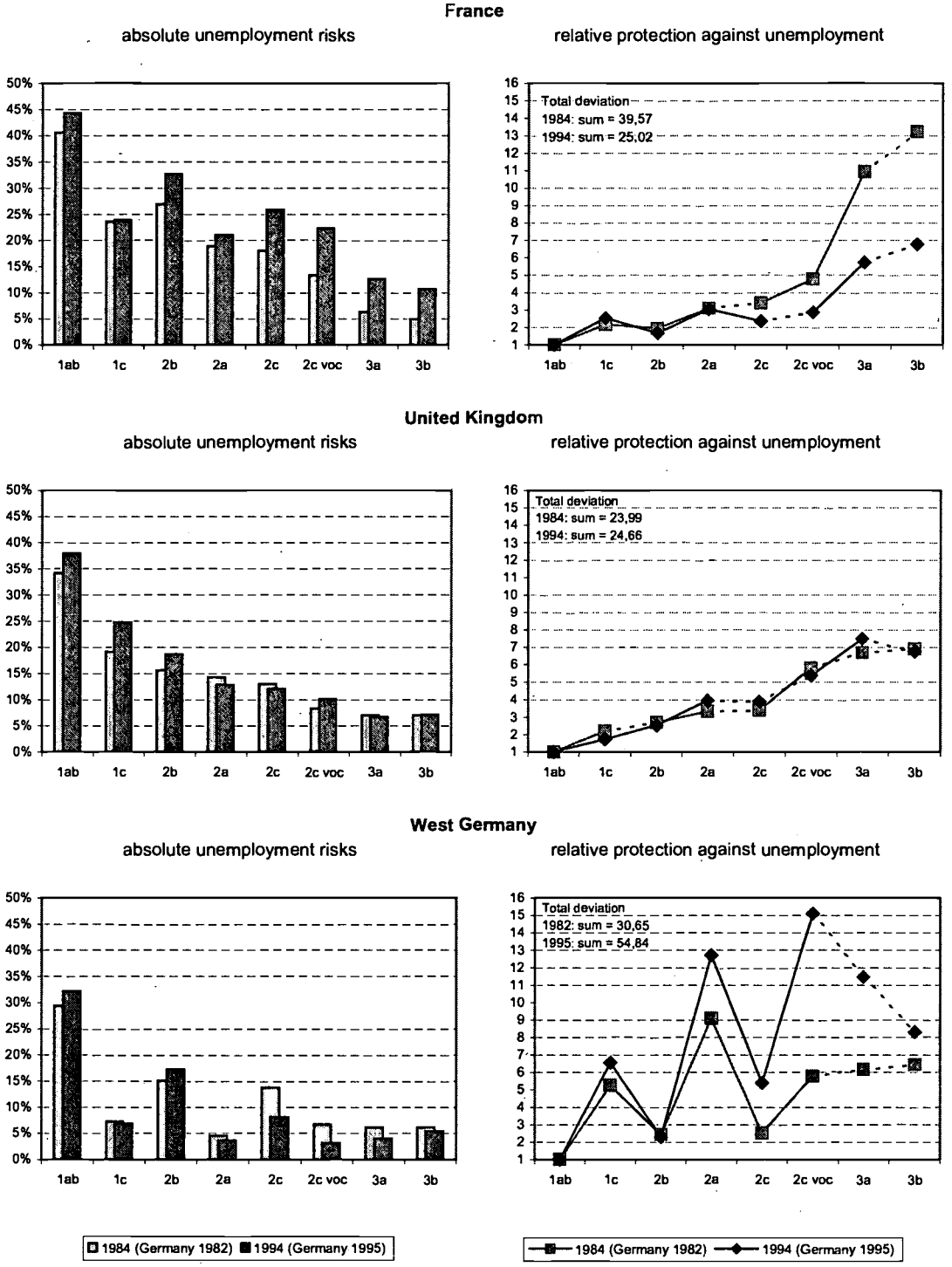
The high unemployment rates faced by the least qualified leavers (CASMIN 1ab) as opposed to fairly low unemployment rates among tertiary level leavers (CASMIN 3a, 3b) are apparent from figure 1. The qualificational breakdown of youth unemployment rates reveals – given the results presented in table 2 above – a rather unexpected cross-national similarity: across countries, there is only small variation in unemployment rates among both the least qualified (between some 33% in Germany and 45% in France) and tertiary-level graduates (around 5%, except some 10% in France). This also implies similar relative returns to tertiary education in terms of unemployment risks: in all three countries, higher education graduates incur seven to eight times lower unemployment risks as compared to the least qualified market entrants. In other words, the competitive advantages provided by higher education are both pervasive and fairly similar in the three European societies.

Moreover, our results confirm a first hypothesis outlined in the introduction: level of education and vocational specificity of the degree matters. First of all, the results clearly show an *inverse relationship between the level of general education achieved and the relative risks of unemployment* in all three societies (cf. hypothesis H1). Having obtained intermediate secondary education (CASMIN 2b) rather than only compulsory education (CASMIN 1ab), and obtaining full secondary education (CASMIN 2c) rather than intermediate secondary education, and, finally, obtaining a tertiary degree (CASMIN 3a, 3b) rather than secondary education only, respectively imply a reduction of unemployment risks. After all, the extent of these relative advantages is also similar rather than disparate across countries. Secondly, we also observe that *participation in vocational training at the secondary level* (CASMIN 1c, 2a, 2c voc) *pays off in almost all instants in terms of lower unemployment risks* as compared to general education at the same level of qualification (CASMIN 1ab, 2b, 2c; cf. hypothesis H1).

Nevertheless, this short discussion of similarities glosses over two *crucial and related differences in the extent and pattern of stratification*. These differences relate to both the extent of competitive advantages provided by different credentials as well as to the more detailed pattern of advantages, especially in the case of vocational training at the secondary level. To treat the *extent of educational stratification* first, we calculated a very rough indicator of the inequality of unemployment risks between educational groups. This simple additive measure for deviation from a uniform distribution of unemployment risks is given in the graphs and indicates the by-far strongest stratification of unemployment risks in Germany.[13] The British and especially the French distributions appear much less stratified by education, yet of course, substantial differentials are still apparent.

[13] This indicator is calculated from estimated odds ratios of unemployment for all educational groups relative to CASMIN 1ab. The total deviation is given by $\Sigma[ori - 1]$, with ori = eb for b > 0, and ori = (eb)-1 for b < 0, across educational groups CASMIN 1c to CASMIN 3b

Figure 1: Unemployment Risks and Educational Qualifications



Notes:
Relative effects of education are expressed as reciprocal effect parameter estimates compared to CASMIN 1ab qualifications; see Appendix 1 for details on logit models; dotted lines indicate insignificant marginal effect changes
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

Moreover, the overall *patterns of educational stratification* are very different across countries, as soon as attention is paid to the differences in the value of secondary level vocational training (cf. hypotheses H3, H4). To take the *British pattern* as a starting point, we observe an *almost linear relation between qualifications and unemployment risks.* This pattern reflects a straightforward valuation of the level of education attained: both, each additional stage of qualification and each vocational specialization within educational stages significantly reduces unemployment risks of young people. The British pattern contrasts very clearly with the pictures obtained in both other cases. In the *French case*, we basically observe a *three-layered stratification by educational level*: high unemployment risks for those with only compulsory education, intermediate relative risks for leavers from secondary education (with some advantages to vocational qualifications), and lowest risks for tertiary education graduates.[14] Indeed, a substantial decrease of unemployment risks with the achievement of academic education seems to a characteristic property of the French situation. Still, there is a much more striking contrast between those latter countries and the German pattern of stratification: unemployment risks in *Germany* appear as *polarised between those having obtained general secondary qualifications only and those who passed either vocational training or academic education*. Unemployment risks for the latter groups are fairly low, while the former face substantial unemployment risks. That is, unemployment risks are hardly stratified according to level of education achieved but rather by the distinction between vocationally specific education and training versus general secondary education only. Essentially, leavers from vocational training tracks at the secondary level in Germany face similar low or in some cases even lower unemployment risks than university leavers. This finding is unparalleled by the patterns in both Britain and France. Indeed, it seems fair to conclude that countries differ most with respect to the effectiveness of vocational training (hypotheses H3, H4). This holds both on the lower CASMIN 1c (with the British system providing the least returns) and on CASMIN 2a and 2c voc level (with the French leavers having the relatively least advantageous position across countries).

Changes over Time

Figure 1 also provides visual evidence of changes in the educational stratification of unemployment risks over the last decade. Across countries, no secular trend with regard to changes in the relationship between education and unemployment over time is apparent. Rather, we find significant national variation in terms of change over time. The British pattern of stratification has remained relatively stable between the mid-1980s and the mid-1990s. For France and Germany, opposite trends are observable: While the educational stratification of youth unemployment has clearly declined in France, it has become more polarised in Germany.

Changes over time are most significant *on the upper secondary and tertiary level of the education and training system*. While the relative returns to upper secondary- and tertiary-level certificates have clearly declined in France, they have increased in Germany. In France in 1980, the *baccalaureat* implied substantial advantages over other secondary level qualifications, general and vocational. Also,

[14] Although there is additional variation between different qualifications on the CASMIN 1c - CASMIN 2c voc level that conforms to the above description of similarities between the countries, it seems fair to draw this conclusion because of the - in comparative perspective - very slight 'value added' of achieving baccalaureat qualifications (CASMIN 2c and 2c voc) with respect to unemployment risks.

the benefits pertaining to tertiary-level degrees were much higher than in the mid-1990s. In Germany in 1980, on the contrary, graduating from the tertiary education or completion of apprenticeship training following at least a *Mittlere Reife* qualification (CASMIN 2a/b level) held fewer competitive advantages over other school-leavers than ten years later. It seems as if, beyond achievement of vocational qualification, achieving at least the secondary intermediate level of education has gained in importance over time. Summarising the evidence, we thus find distinctive patterns of trends in the educational stratification of unemployment apart from the cross-country differences in patterns themselves: increased polarisation in the German case, continuity in the United Kingdom, and a substantial levelling out of competitive advantages pertaining to higher quality degrees in France.

6 Education and Unemployment in Labour Market Entry Processes

As the final step of our analyses, we now explore the nature of educational effects during labour market entry processes in more detail. Therefore, we distinguish between two stages within the transition period: first, the *search for initial employment* after leaving education and training and second, the *early career stage* after initial employment experience. We thus decompose unemployment risks in the transition from education to work in two aspects, namely *access to first employment and instability of initial employment*. The rationale favouring this setup is that it will allow an investigation of different aspects of educational effects in the transition process: unemployment may result from inability to access employment *or* instability of initial employment itself, with the decomposition enabling us to investigate different educational effects in either stage. The technical setup of this model has been detailed in section 3 above; estimation results are given in tabular form in table 3 below. Figures 2 and 3 presented below provide graphical information on core results in terms of marginal effects of education. Results for this sequential model will be discussed in due order in the following, naturally focusing on the effects of qualifications.

First Entry into the Labour Market

The first stage of our sequence model describes the smoothness of labour market entry: we predict the probability of ever having had a job dependent on gender, education and time since leaving education and training. 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 stratification* in finding one's first job, while the time effects allow for an assessment of the *immediacy of market entry* in terms of waiting time until initial employment. From both the tabular and the graphical display of respective results (cf. the lower part of table 3, respectively the left and middle panel of figure 2), two country patterns emerge at this stage of the model: in terms of the stratification pattern of market entry, France and the United Kingdom appear broadly similar, while the German pattern is markedly different (see hypotheses H3 and H4).

In Germany, labour market entry is found to occur fairly quickly and smoothly after completion of initial education and training. Effects of time since leaving the education and training system on the probability of accessing a first job are hardly discernible. That is, young people just one year out of

education and training are as likely to have found their first job as their older counterparts. This feature comes with a strong educational stratification of labour market entry, however. Again, the educational effects follow the by now well-known polarised pattern: leavers from vocational training tracks on secondary level (CASMIN 1c, 2a, 2c voc) and tertiary level graduates (CASMIN 3a, 3b) hardly face any problems in immediate labour market integration. In contrast, leavers having obtained general secondary education certificates only (CASMIN 1ab, 2b, 2c), experience substantial entry problems. In summary, problems of access to employment are very much confined to the least qualified in Germany, while there is no exclusion of the most recent entrants.

Contrasted with the German pattern, success in finding the first job in France and the United Kingdom first of all appears to be much more related to search time. In addition to time effects, educational stratification is also present, of course, although the patterns are less polar and suggest different rankings of qualifications. The strong effects of time since leaving education and training provide some evidence for significantly less smooth initial transitions. In their first and second year in the labour market, a substantial proportion of the British and French entrants are still looking for their first job. In contrast to the German case, the probability of finding a first job is strongly related to and increasing with (fairly lengthy) spans of time. In that sense, the process of labour market integration is much more gradual in these economies than in Germany (cf. hypothesis H4). On the other hand, this process is less excessively structured and polarised by educational qualifications: it is self-evident from the French and British patterns that education does provide competitive advantages in accessing a first job, yet the patterns of stratification appear quite different. In both cases, it is much more the level of education that pays off in terms of a smooth transition into the first job than in Germany. Following an educational career, almost each additional qualification entails a higher entry probability in Britain and France. This contrasts very sharply with the German pattern, where leavers from apprenticeship tracks even fare slightly better than university graduates in the transition from education to work (cf. hypothesis H3).

Acquisition of Positional Resources and their Effects

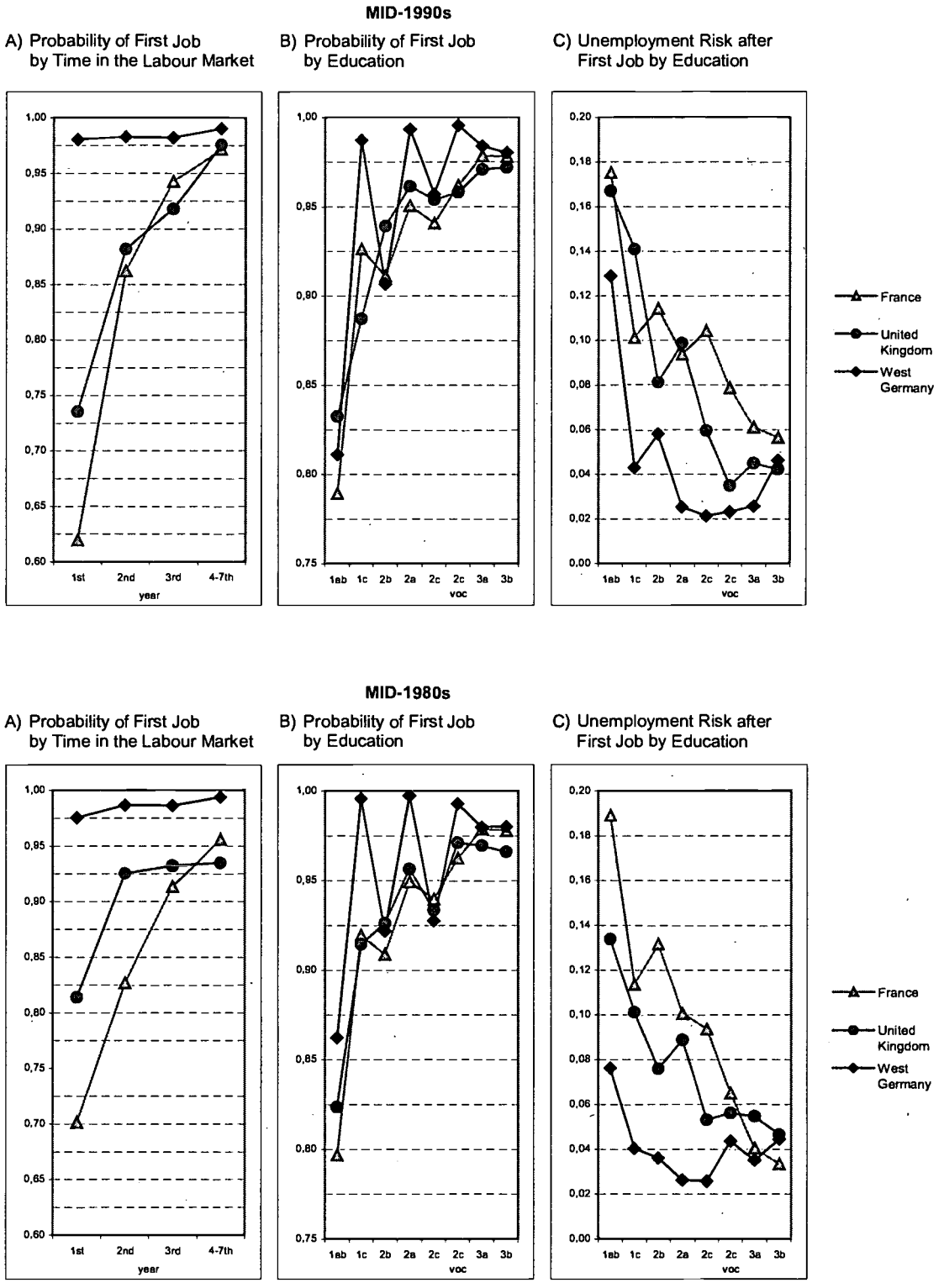
Once employment has been located, unemployment risks in the subsequent career are subject to both an indirect and a direct effect of education. Unemployment risks clearly depend upon education in the sense that education is continuously being used as a screening device to discriminate between individuals in case of dismissal and recruitment. On the other hand, the risk of unemployment is also related to the type of job position one holds. The more stable and long-term one's current contract, the smaller medium-term unemployment risks are to be expected. Insofar as education is linked to issues of access to stable positions, this reconversion of education into job positions yields an indirect effect of qualifications on unemployment risks. This nexus between educational qualifications and job quality as well as the impacts of different institutional contexts have been extensively discussed and reasonably well established in comparative research (e.g. Müller/Shavit 1998; Brauns/Müller/Steinmann 1997; Kerckhoff, forthcoming among others). And although we do not explicitly model this aspect in the current model, we clearly observe its consequences. Educational effects in the second stage of our sequence model indeed decline once positional information in terms of segment position and type of contract are included in the equation.

Table 3: Search and Instability in the Labour Market Entry Process, Sequential Logit Estimation

	France		United Kingdom		West Germany	
	1984	1994	1984	1994	1982	1995
Unemployment Risk after First Job						
Women	0,05 (.06) n.s.	-0,06 (.06) n.s	-0,22 (.06)	-0,49 (.07)	0,12 (.07) n.s.	-0,14 (.09) n.s.
Educational Qualifications						
- CASMIN 1c	-0,60 (.08)	-0,63 (.09)	-0,32 (.14)	-0,20 (.11)	-0,67 (.09)	-1,19 (.14)
- CASMIN 2b	-0,43 (.10)	-0,49 (.12)	-0,63 (.08)	-0,60 (.10)	-0,79 (.17)	-0,88 (.24)
- CASMIN 2a	-0,74 (.09)	-0,72 (.09)	-0,46 (.11)	-0,82 (.12)	-1,12 (.12)	-1,74 (.15)
- CASMIN 2c	-0,81 (.13)	-0,60 (.13)	-1,01 (.14)	-1,15 (.16)	-1,14 (.22)	-1,91 (.29)
- CASMIN 2c voc	-1,21 (.14)	-0,91 (.11)	-0,96 (.22)	-1,71 (.24)	-0,59 (.16)	-1,84 (.19)
- CASMIN 3a	-1,71 (.17)	-1,19 (.11)	-0,98 (.23)	-1,45 (.21)	-0,82 (.24)	-1,73 (.26)
- CASMIN 3b	-1,91 (.20)	-1,27 (.13)	-1,15 (.17)	-1,51 (.16)	-0,57 (.21)	-1,12 (.21)
Job Position Attained						
- Professional Employment	-0,63 (.12)	-0,26 (.10)	-1,15 (.14)	-1,01 (.13)	-1,22 (.16)	-0,86 (.16)
- Skilled Employment	-0,36 (.06)	-0,02 (.06) n.s.	-0,42 (.07)	-0,54 (.08)	-0,42 (.08)	-0,29 (.10)
- Self-employment	-1,75 (.27)	-1,69 (.33)	-0,67 (.15)	-0,47 (.15)	-1,63 (.29)	-1,20 (.34)
Temporary Job	2,08 (.06)	1,91 (.06)	0,91 (.09)	0,23 (.11)	N/A	-0,20 (.11) n.s.
Intercept	-1,46 (.06)	-1,51 (.07)	-1,42 (.06)	-0,93 (.08)	-2,18 (.09)	-1,42 (.12)
N	12.725	11.472	12.642	10.095	32.809	17.355
Log-Likelihood H_0	-5.325,34	-5.184,90	-3.996,03	-3.158,04	-5.405,62	-2.736,90
Log-Likelihood H_1	-4.282,28	-4.294,93	-3.714,30	-2.884,41	-5.224,32	-2.605,48
Likelihood Ratio Test / G^2	2.086,12 (12)	1.779,95 (12)	563,46 (12)	547,26 (12)	362,60 (11)	262,84 (12)
R^2_{ML}	0,15	0,14	0,04	0,05	0,01	0,02
BIC'	-1.972,70	-1.667,77	-450,12	-436,62	-248,22	-145,70
Attainment of First Job						
Women	-0,69 (.06)	-0,23 (.07)	0,45 (.06)	0,67 (.08)	-0,26 (.12)	-0,33 (.11)
Educational Qualifications						
- CASMIN 1c	1,07 (.08)	1,21 (.10)	0,83 (.15)	0,46 (.11)	3,60 (.24)	2,89 (.19)
- CASMIN 2b	0,93 (.10)	1,00 (.12)	0,99 (.07)	1,13 (.11)	0,63 (.20)	0,82 (.20)
- CASMIN 2a	1,56 (.10)	1,63 (.11)	1,55 (.14)	1,61 (.15)	4,09 (.20)	3,56 (.19)
- CASMIN 2c	1,38 (.12)	1,44 (.15)	1,10 (.11)	1,43 (.14)	0,72 (.13)	1,64 (.22)
- CASMIN 2c voc	1,88 (.15)	1,91 (.12)	1,97 (.27)	1,52 (.18)	3,09 (.29)	3,91 (.31)
- CASMIN 3a	2,46 (.16)	2,50 (.14)	1,92 (.25)	1,90 (.21)	2,04 (.22)	2,66 (.25)
- CASMIN 3b	2,42 (.17)	2,48 (.14)	1,81 (.14)	1,94 (.13)	2,07 (.16)	2,45 (.20)
Time in the labour market						
- First year	-2,22 (.07)	-3,04 (.05)	-1,19 (.07)	-2,66 (.09)	-1,40 (.15)	-0,71 (.19)
- Second year	-1,51 (.08)	-1,70 (.06)	-0,14 (.09) n.s.	-1,67 (.11)	-0,76 (.24)	-0,56 (.19)
- Third year	-0,72 (.09)	-0,73 (.07)	-0,04 (.10) n.s.	-1,27 (.12)	0,81 (.23)	-0,60 (.15)
Intercept	2,28 (.06)	2,16 (.05)	1,59 (.05)	2,21 (.09)	2,59 (.24)	1,83 (.11)
N	14.414	12.867	14.269	11.178	34.576	18.001
Log-Likelihood H_0	-5.207,26	-4.415,86	-4.706,57	-3.430,07	-4.254,44	-1.784,15
Log-Likelihood H_1	-4.256,66	-3.276,80	-4.245,62	-2.728,59	-3.203,61	-1.522,05
Likelihood Ratio Test / G^2	1.901,20 (11)	2.278,11 (11)	921,89 (11)	1.402,95 (11)	2.101,66 (11)	524,20 (11)
R^2_{ML}	0,12	0,16	0,06	0,12	0,06	0,03
BIC'	-1.795,86	-2.174,03	-816,67	-1.300,41	-1.986,70	-416,42

Notes:
Model on Attainment of first job is temporally preceding model on unemployment risks after first job; the latter model includes only the subsample of experienced individuals;
Standard errors in parantheses; *n.s.* signifies statistical significance at $p > .05$;
Reference categories are: CASMIN 1ab for education; unskilled employment for job position attained and fourth year or later in case of time in the labour market;
Sources: Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
entrants into the labour force, unweighted results

Figure 2: Educational Effects on Unemployment, Sequential Logit Model Estimates



Notes:
Figures show dummy variable discrete change effects calculated at the means of all other independent variables from sequential logit model estimates; see table 3 for tabular display
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

As the focus of the current paper is on the direct effects of education, however, we restrict ourselves to a very brief discussion of the effects of employment positions attained (cf. the upper half of table 3). Broadly speaking, professional and skilled workers' positions as well as self-employment usually imply lower unemployment risks as compared to unskilled employment. The advantages provided by skilled employment are generally lower than those of professional positions or self-employment. Individuals employed on the basis of temporary contracts incur higher unemployment risks than those employed on permanent contracts, although this disadvantage has declined over the last decade. While the German and British patterns of effects are fairly similar with respect to the role of positional resources, it is the French pattern that clearly diverges this time. Two aspects of the French pattern seem remarkable: first, temporary contract positions in France hold exceedingly high disadvantages in terms of unemployment risks as compared to both Britain and Germany, while the countries appear broadly similar as far as unemployment risks for individuals in permanent positions are concerned. Second, the competitive advantages provided by professional and skilled employee positions is lowest among the three countries, and this appears as a consequence of changes over the last decade.

Screening Effects after the Attainment of the First Job

Still, even after an initial conversion of educational qualifications into job positions has occurred, we find evidence of significant effects of education on unemployment risks in the early labour market career (cf. the upper half of table 3; hypotheses H2, H5). As has been detailed above, one would also expect continued effects of education since education may be said to maintain its usefulness in the evaluation of workers over an employment career. Essentially, the estimates of educational effects in the second stage of labour market career reconfirm the observations made so far. Here, we again find evidence of two major distinct patterns of educational stratification of unemployment risks and additional slight differences between France and the UK (cf. the panels on the right hand side of figures 2 and 3; hypothesis H5). For France and the United Kingdom, the patterns closely resemble the patterns already identified in section 5 above: an inverse, almost linear relation between level of qualification and unemployment, with the French pattern exhibiting more of a three-layered differentiation between individuals having obtained compulsory education only, those having completed secondary qualifications and, particularly advantaged, tertiary-level graduates. The interesting case is Germany again, where educational differentials apart from the contrast of CASMIN 1ab versus all other qualifications are simply non-existent in terms of job instability - once initial employment has been found (cf. hypothesis H5). This finding is, of course, in stark contrast to our earlier results of strong stratification for the transition period in general and especially with respect to initial search in the market. Some qualifying remarks are necessary, however, both for details of the relative positions of single qualifications and on the interaction between the two stages of our model.

One appealing feature of the model estimated here is the possibility of assessing reinforcing versus counteracting effects of qualifications over the different stages of the transition process. That is, we are able to establish the extent to which those qualifications providing for smooth first-time entry also imply relatively stable positions afterwards or whether certain trade-offs exist here. From a comparison of educational effects at either stage of the model (cf. the middle and right panels of figures 3 and 4), the general conclusion is that (dis)advantages pertaining to qualifications tend to be reinforced in the course of the labour market entry process. In almost all cases, those qualifications that provide

smooth entry also provide lower unemployment risks afterwards. Broadly speaking, there is only one exception to this rule, namely the case of intermediary secondary-level qualifications (CASMIN 2a/2b) in Britain. This is the only major case where slightly different patterns are apparent: in the second stage of the model, where leavers with vocational qualifications from CASMIN 2a level clearly face a disadvantaged position as compared to the general O-level type (CASMIN 2b) qualifications. In fact, this is the only case where general education qualifications go together with higher employment stability as compared to their vocational counterparts on the same level of education.

Breaking down unemployment risks into a job search and a job instability component, moreover, sheds some light on the actual processes underlying the observed overall educational stratification of youth unemployment as described in section 5 above. Trying to summarise our comparative findings, it is probably fair to conclude that two basic patterns of educational effects are apparent: the contrast between Germany on the one hand, and France and the UK on the other. Taking the latter countries first, substantial educational differentials are apparent for both stages of our model – in addition to and above of controlling for positional resources and other factors. That is, the overall educational stratification is a product of reinforcing (dis)advantages in terms of both access to employment and job stability of employment in early career. And although the type of employment is related to subsequent unemployment risk, educational effects continue to operate and qualifications retain their comparative advantages. Of course, there are additional differences between France and Britain, which we would argue to be deviations from a common pattern, however. The most striking of these actually is the role played by temporary contracts (partially including work experience contracts) for unemployment risks. While unemployment risks for individuals in temporary contract positions is slightly higher in the UK, French youth in this type of employment face dramatically high risks of unemployment. Certainly, the French youth labour market is characterised by substantial volatility and instability partially linked to the excessive use of temporary work experience schemes.[15]

Compared to these two countries, the situation is fundamentally different in West Germany. Here, the very strong overall qualificational stratification of unemployment is only partially reproduced by the sequential model. Strong educational differentials in line with the overall pattern are apparent for the search stage, yet the educational stratification of employment instability is very weak. In the second stage of our model, we barely found a contrast between the lowest qualified and all other leaver groups without any sign of further differentiation. How do these findings relate to the overall stratification pattern observed? One might argue that the very strong stratification observed results only from a very strong qualificational stratification of attainment of first job – which, moreover, is clearly linked only to qualifications without effects of time since entry (cf. hypothesis H3). Given the substantial importance of experienced unemployed also in the German sample, this explanation nevertheless seems only partially convincing. There has to be more to it to account for the lack of educational stratification of exclusion after attaining the first job. One possible explanation, consistent with earlier studies and aspects of our findings, centers on the close match between qualification and initial employment in the German labour market. If instability is a function of the type of employment

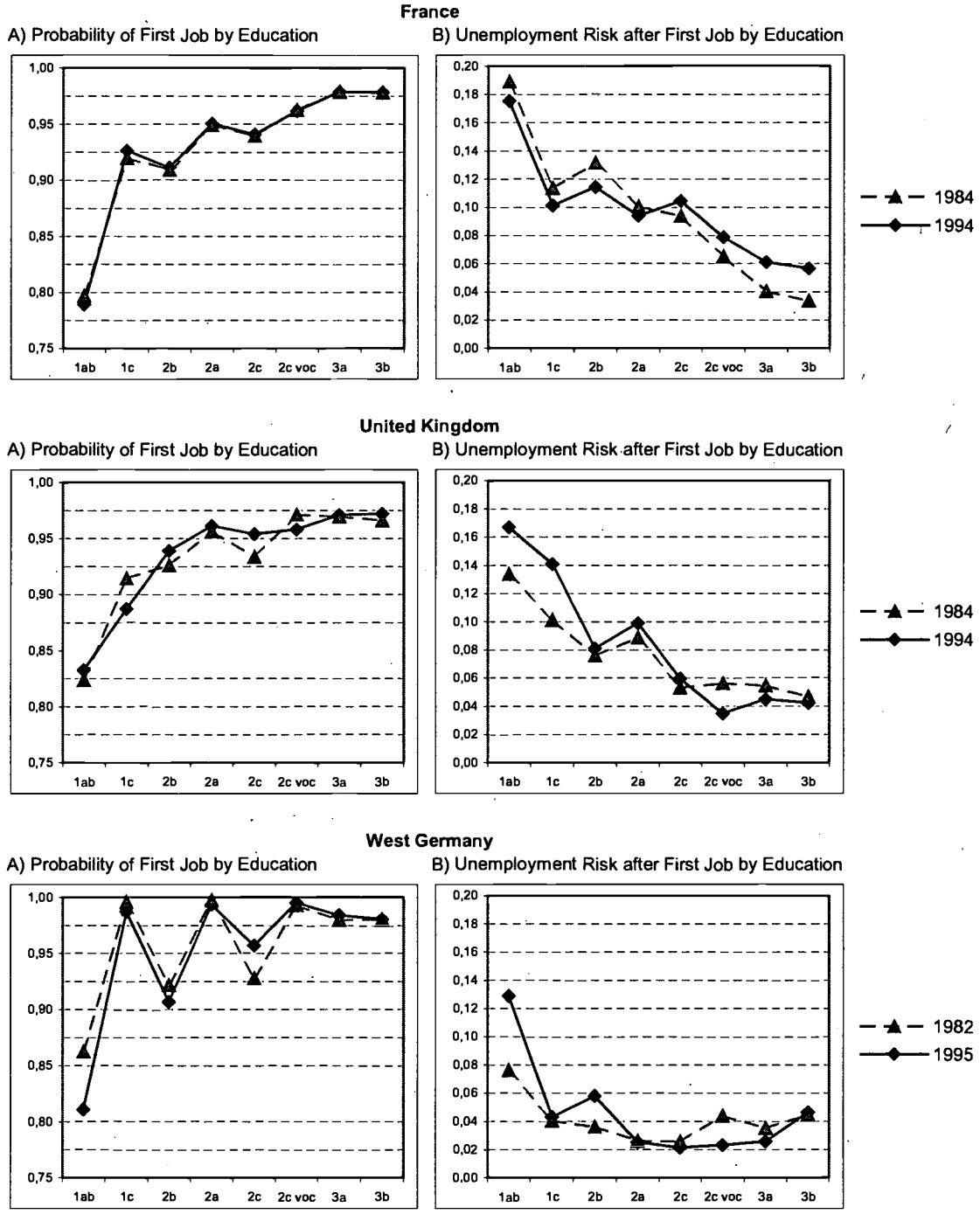
[15] Certainly, we cannot claim a causal treatment effect of fixed-term contracts for France from our analyses: we can, however, state that fixed-term contracts in France are subject to extraordinarily high risks of subsequent unemployment as compared to small effects in both the UK and West Germany – irrespective of this being related to a causal effect or the result of sharp selectivity.

and qualifications allow for a clear matching to employment positions, then a remaining single influence of job characteristics may be expected in the regressions. As convincing as this may sound, empirical support is yet only partially indicative of this. Clearly, educational effects are very low and even level out further once positional controls are introduced. As judged from the goodness-of-fit indices provided, the positional controls introduced, however, do not appear to capture overly much variation in unemployment risks themselves. Of course, this can be related both to the invalidity of the tenet suggested or the crudity of the indicators adopted. Further research is obviously needed at this point.

Changes in Educational Effects over Time

In comparing our results for the mid-1990s to those established for the mid-1980s, we are additionally able to establish evidence for changes over time in educational effects on unemployment processes. With respect to the first step of finding first employment, we observe hardly any changes in the educational effects for any of the three countries. Interestingly, the time effects are changing in the French and British, but not in the German case: specifically, there are marked increases in the negative effects of the very first year in the market. Thus, it seemingly became more difficult on average to locate initial employment immediately in these two countries in the 1990s. Somewhat stronger changes over time are, however, apparent for the second stage of our sequential model. It is evident that the strong country differences in the patterns of educational stratification observed for the 1990s are partly due to divergent patterns of changes over the last decade. Changes in the educational distribution of early career unemployment risks took place in all three countries. Yet, the pattern of change differs between the countries: In France, for once, we establish an increase in unemployment risks biased towards higher level qualifications. The contrasting case is evident for Germany, where unemployment risks increased substantially for the least qualified with lower and intermediate general secondary qualifications only. For labour market entrants holding occupational qualifications, the situation remained basically unchanged, leavers from CASMIN 2c voc and 3a even face lower unemployment risks in the 1990s. The United Kingdom, finally, probably shows the most interesting pattern in this respect. As in Germany, unemployment risks also declined for higher education leavers, while they increased for the lower level qualifications. However, it was not the least qualified with compulsory education only who faced increasing unemployment risks, but rather those obtaining slightly more demanding qualifications on CASMIN 1c and 2b level.

Figure 3: Trends in the Educational Stratification of Unemployment, Sequential Logit Model Estimates



Notes:
Figures show dummy variable discrete change effects calculated at the means of all other independent variables from sequential logit model estimates; see table 3 for tabular display
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994; Entrants into the labour force, unweighted results

7 Summary

In this paper, we have examined on education and unemployment risks in school-leavers' early labour market career. The main objective was to explore how young people's risk of unemployment is related to educational achievement, and in what way this relationship is shaped by the institutional embeddedness of the education and employment system. For that purpose, a comparative perspective was applied on Germany, France and the United Kingdom, as three countries that considerably differ in characteristics of national education systems and the organisation of labour markets. Moreover, a historical perspective on each of the three countries was adopted to get some idea of trends in the educational stratification of unemployment risks over the past decade.

A first global glance at youth unemployment in the three countries reveals some substantial differences in overall levels of unemployment, reasons for exposure to unemployment as well as in the pervasiveness of long-term unemployment, search-unemployment upon school-leaving and instability of early careers. These cross-national differences tend to be fairly stable from the mid-1980s to mid-1990s. Beyond these global differences, the three countries share a basic similarity: a distinctive educational stratification of unemployment risks.

Our analyses show for all three countries that young people's risk of unemployment is strongly related to their educational (non-)achievement. Unemployment rates are typically highest among school-leavers with compulsory education only and lowest among graduates from higher education. Despite substantial cross-country differences in national unemployment rates, the absolute rates faced by the lowest and the highest qualified school-leavers, are fairly similar. This implies that in all three countries, tertiary education provides significant advantages, and compulsory education only major disadvantages with respect to labour market integration. Also, we observe benefits pertaining to vocational qualification: In all countries, vocational qualification significantly reduces the likelihood of unemployment as compared to general education only at the same level. Overall, our findings support our hypothesis H1 outlined in section 2: employers tend to reward two facets of educational achievement: hierarchical level of education reached and vocational specificity of one's education.

Introductory we have also argued that employers use more than just educational screening to select among young people, and that the extent to which educational resources make a difference should depend upon young peoples' career stage. More precisely, it was suggested that the differentiating impact of formal education should be particularly strong when young people are about to entering the labour market ("get into the door") upon leaving school. It should be smaller, though, as soon as they have succeeded in finding employment. When entering the labour market, school-leavers should to some degree be able to transform their educational resources into positional resources (occupational position, type of contract etc.) which– per se – more or less protect them against the risk of becoming unemployed. At the same time, their performance on the job gives employers reliable indicators of their productivity upon which employers can screen should staff cuts be necessary, instead of drawing on education as an indirect measure of their ability. The empirical analysis in section 6 supports our hypothesis H2: The educational stratification of unemployment risks is indeed particularly strong at

labour market entry, that is with respect to search-unemployment right upon leaving school. Still, educational achievement also matters significantly after initial hiring into the labour force has taken place, with respect to one's chances of a stable career. As we argue in section 2, this may be because reliable information about individuals' productive capabilities unfolds only slowly with time in the job, so that employers still see formal education as an important screening device when decisions about staff cuts must be made. Also, employers tend to reward credentials as a matter of firm policy and for their social value.

Thurow's labour queue model also suggests that the *precise* shape of the labour queue depends upon employers' preferences. Employers, in turn, are embedded in a specific institutional environment of how labour markets are organised and human resources endowed with certain qualifications and skills are made available by the national education system. This environment considerably shapes their preferences for certain credentials over others. Besides the commonalties in the educational stratification of unemployment risks that have been outlined, our analyses confirm considerable cross-national dissimilarities, in particular between Germany on the one, France and the UK on the other side, that seem to be linked to particularities of national institutions. Basically, the countries differ in 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 in the degree to which each of the two facets of educational achievement, level of general education or vocational specificity, are valued. Relying on a rough indicator of the extent of inequality among the various educational groups, we find that the strongest stratification of unemployment risks according to education prevails in Germany. This finding can be put down to the sharp skill-divide between vocationally qualified and vocationally unqualified school-leavers: This confirms our hypothesis H3: In the German occupational labour market, vocational qualification provides a clear advantage over general education only on whatever level. Vocationally qualified school-leavers profit from a smooth, that is immediate transition into employment right upon completion of their training. Moreover, they seem to benefit from allocation to jobs which provide them with quite substantial security of employment during their early career. The reverse side of the employment security offered to vocationally qualified school-leavers in occupational labour markets, is the extent to which unqualified school-leavers are excluded from the labour market.

As expected in hypothesis H4, in France and the UK, exposure to unemployment is less rigidly stratified according to educational achievement. The role of education is different from the situation in Germany. Due to the prevalence of firm-internal rather than occupational labour markets, there is no such polarisation of the chance structure as in Germany according to achievement of vocational qualification. 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 generally less smooth transition into the employment system in the United Kingdom and France and with formal education being a quite differentiating resource with regard to young people's chances of continued employment following upon their entry into the labour market.

Hence, our analysis also confirms hypothesis H5: We find much weaker direct effects of formal education on young people's chances to keep their foot in the labour market, once an entry has taken place, in Germany than in the UK and France. In Germany, tight selection at entry into the occupationally structured labour market implies a smooth and, in terms of job allocation, "structured" transition into the employment system for those who are endowed with the critical entry tickets. Once these school-leavers enter the closed system, they are able to convert their educational resources into a (more or less) beneficial labour market position whose attributes largely determine chances of continued employment. By contrast, less rigid hiring practices in France and the UK imply that transition into employment upon completion of schooling is typically less "structured" in terms of an institutionalised "correspondence" of education and occupational entitlement at labour market entry (see Shavit/Müller 1998). The conversion of educational resources into an adequate and safe job takes place over a longer period than in occupational labour markets. Thus, one main difference between Germany and the two other countries with regard to the educational stratification of unemployment risks is that in the German context of occupational labour markets, exclusion from entry into employment operates on a clear-cut qualificational base. However, "underachievement" in the education system will also be penalised in the UK and France. This penalty takes the form of allocation to a "bad" job and a temporary employment contract at initial hiring and, beyond that, a generally disadvantageous position just *because* of their educational performance when it comes to career advancement and lay-off decisions. Therefore, the consequences of educational achievement in terms of low unemployment risks will unfold later *in the course* of young people's early career than in Germany, with respect to their chances of career advancement and continued employment. Yet, differences between the two countries exist in the general importance of educational credentials: the historical tradition of credentialism in France gives formal education an even stronger importance in employers' personnel decisions than in the UK. However, the analyses suggest a fairly clear-cut notion in each country of what a "bad" educational performance is: For 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.

What is the impact of educational expansion on the educational stratification of unemployment risks? Is there a common trend observable across the three countries? The analyses reveal no spectacular changes in education effects over the past decade. The changes seem to reflect the idiosyncrasies of the particular setting in each country rather than a secular trend across nations. What do the results imply in terms of the Thurow-model put forward in section 2? At first view, there does not seem to be much support for the hypotheses that we have derived from it, besides - in some respects - the exception of Germany. In Germany, we observe that the increase in qualified school-leavers in the course of educational expansion fosters indeed a greater risk of labour market exclusion for the unqualified. In other words, in occupational labour markets, educational expansion leads to an even stronger closure against those already being excluded in large parts. In the French and British labour markets, by contrast, we do not find the same trend. In view of the institutional reforms undertaken in the education and employment systems, the British and French findings do not seem easily

comprehensible. While the British, for example, have made great efforts to reform their vocational education and training system and to deregulate the labour market, we find almost no indication of improved relative chances for those with vocational qualification, rather the opposite as far as labour market entry is concerned. In France, we indeed observe a slight improvement in the relative position of vocationally qualified school-leavers over those with general qualification only, in particular with regard to prospects of a stable career, which may come from modernisation of the vocational education system. The parallel decline in the relative benefits to tertiary education, however, seem counter-intuitive to the hypotheses that we derived from the Thurow-model. Yet, more detailed research on this issue may provide further insight in the validity of the labour-queue model. In the case of the educational stratification of unemployment in Germany, we have made use of the idea of a labour queue to explain "who gets a job, who does not?", while assuming that the jobs to be distributed are more or less homogeneous in terms of the unemployment risk attached to them after people are hired into the job. In France, the assumption of homogeneous clusters of jobs cannot be made. Due to the predominance of internal labour markets and the need to screen new employees for some period of time, a large number of jobs are only temporary. These precarious job situations have increased in number over time and, as the empirical results in table 2 have shown, are associated with a very high risk of subsequent unemployment. French employers have shown a strong tendency over the past few years to cope with the uncertain economic situation by more flexible employment relationships which allows them to respond more quickly and easily to changing market demand. In consequence, if the idea of labour queue model is applied to explaining the educational stratification of unemployment on the French labour market, then it would need to answer two questions: first, "who gets a job, who does not?", second, "who gets a good job, who a bad job?", the latter being attached to a high risk of unemployment afterwards. With respect to the second question, the idea of a labour queue would imply that the lowest qualified school-leavers (who have been allocated a job upon completion of schooling) are placed at the top of the queue, the higher at the bottom. In times of educational expansion, the proportion of low qualified school-leavers among a school-leaver cohort, and among those who have been offered a job in particular (see section 2), decreases substantially. If the number of "bad jobs" associated with a high risk of subsequent unemployment remains stable or even increases over time as in France (Balsan et al, 1998), then more qualified school-leavers should be allocated to these bad jobs than before. Empirical evidence from other research confirms this. In consequence, school-leavers with higher education should experience higher risks of unemployment and, on average, a less favourable relative position compared to the lowest qualified than in earlier times. More extensive research is needed to elaborate on this issue. Investigating the consequences of educational expansion in more detail requires exploring, for example, whether reform of national education and training systems has been counterbalanced by developments in the youth labour market, and most important, empirically disentangling the impact of supply and demand-side factors.

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Appendix

Table A1-1: Labour Market Positions, based on EGP and Sectoral Position

Labour Market Position	Composition
Professional	I, II
Skilled	IIIa, V, VI, IIIb (if employed in public sector)
Self-employed	IVabc, Selfemployed form I, II,
Unskilled	VIIab, IIIb (if *not* employed in public sector)

Table A1-2: The EGP Classification

Classes	Description
I	Higher-grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors
II	Lower grade professionals, administrators, and officials; higher-grade technicians; manager in small industrial establishment; supervisors of non-manual employees
IIIa	Routine non-manual employees, higher grade (in administration and commerce)
IIIb	Routine non-manual employees, lower grade (sales and services)
Ivab	Small proprietors and artisans with or without employees
Ivc	Farmers and smallholders; other self-employed in primary production
V	Lower-grade technicians, supervisors of manual workers
VI	Skilled manual workers
VIIab	Semi- and unskilled manual workers, Agricultural and other Workers in primary Industry

Source: adapted from Brauns/Haun/Steinmann 1997, S. 5

A2: Early Career Unemployment Risks in Three European Countries, Logit Models

	France		United Kingdom		West Germany	
	1984	1994	1984	1994	1982	1995
Intercept	-0,60 (.04)	-0,31 (.05)	-0,54 (.04)	-0,28 (.05)	-1,01 (.05)	-0,70 (.11)
Women	0,46 (.04)	0,20 (.05)	-0,29 (.05)	-0,54 (.05)	0,25 (.04)	0,08 (.08) n.s.
Educational Qualifications (REF: CASMIN 1ab)						
- CASMIN 1c	-0,77 (.06)	-0,93 (.07)	-0,79 (.10)	-0,46 (.08)	-1,65 (.05)	-1,91 (.13)
- CASMIN 2b	-0,67 (.08)	-0,52 (.09)	-0,99 (.05)	-1,42 (.10)	-0,68 (.09)	-0,82 (.17)
- CASMIN 2a	-1,13 (.07)	-1,11 (.08)	-1,20 (.09)	-1,37 (.09)	-2,21 (.07)	-2,59 (.13)
- CASMIN 2c	-1,23 (.10)	-0,86 (.10)	-1,22 (.09)	-1,35 (.10)	-0,92 (.09)	-1,74 (.17)
- CASMIN 2c voc	-1,56 (.11)	-1,05 (.08)	-1,76 (.17)	-1,68 (.14)	-1,74 (.10)	-2,85 (.17)
- CASMIN 3a	-2,39 (.12)	-1,74 (.08)	-1,89 (.17)	-2,01 (.15)	-1,81 (.12)	-2,44 (.19)
- CASMIN 3b	-2,58 (.14)	-1,91 (.09)	-1,93 (.10)	-1,91 (.10)	-1,86 (.10)	-2,16 (.15)
N	12.961	11.621	14.269	11.178	33.518	13.644
Log-likelihood L_0	-6.959,18	-6.330,49	-7.056,55	-5.263,11	-10.577,50	-4.129,38
Log-likelihood L_1	-6.343,71	-5.941,48	-6564.81	-4838,40	-9.866,61	-3.804,81
Likelihood ratio test (df)	1.230,94 (8)	778,02 (8)	983,49 (8)	849,41 (8)	1.433,64 (8)	451,11(8)
R^2_{ML}	0,09	0,06	0,07	0,08	0,04	0,04
BIC'	-1.155,18	-703,14	-906,96	-774,84	-1.337,84	-570,74

Notes:
Standard errors in parantheses; *n.s.* signifies statistical significance at p > .05;
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

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