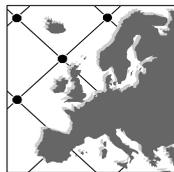


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Educational Expansion and Returns to Education

A Comparative Study on Germany, France,
the UK, and Hungary

**Hildegard Brauns, Walter Müller and Susanne
Steinmann**

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Editorial Note

This working paper has been presented at the conference on 'Transitions in Youth' in Dublin, September 1997.

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Dieses Arbeitspapier wurde auf der Konferenz, 'Transitions in Youth' in Dublin, September 1997, vorgetragen.

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Abstract

The paper proposes an empirical examination of the consequences of educational expansion and reform in four European countries in terms of school-leavers' labour market chances. The empirical analyses focus on the returns to higher education on the one side and vocational qualification as compared to general education on the other. We concentrate on social class position as a major indicator of labour market related returns to education. Returns to education are measured in two ways: first, in absolute terms by taking the percentage among single educational groups that reaches a specified class position and second, in relative terms by relating the chances of a single educational group to the chances of another group. This is done on the basis of outflow-ratios and odds ratios derived from multinomial logistic regression. The absolute and relative chances are then compared over time and between the countries.

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1. Introduction*

Following WW II, European societies have experienced a massive educational expansion accompanied by more or less substantial institutional reforms of the educational systems. In all societies, educational growth originally arose from both economic and social reasons. It was motivated by the 'manpower demand' of rapid economic growth and modern industrial production as well as by the 'social demand' for education reinforced by the concern of governments to spread the presumed economic and social benefits of education more equally through all social strata. In most countries, the chief obstacles to the objectives of mass education and a highly skilled work-force were seen in the selectivity of upper secondary and higher education and in the poor status of vocational and technical education institutions. It became primary concern of the educational reformers to remove existing barriers to secondary and higher education as well as to build up capacity in vocational education throughout the secondary and tertiary education system. The independent nature of educational expansion, however, became evident in the mid-70s, when policy makers had realised that educational expansion does not necessarily yield the expected economic effects nor a fundamental reduction in social inequality (Fuller/Rubinson 1992; Papadopoulos 1994; Meyer/Hannan 1979). Despite changes in educational priorities and policy measures, enrolments steadily increased. By the end of the 1980s, educational explosion and, in particular, overcrowded universities are increasingly perceived as a problem. Modern educational discourse is filled with slogans like „reform-failure“, „educational inflation“, „oversupply of higher education graduates“, „declining quality standards of education“, „decreasing economic and social returns to education“ etc.. In many Western European societies, the expansion of educational opportunities is now on its way of being replaced by contraction.

In this paper, we propose an empirical examination of the validity of such scenarios. We will not investigate the 'effectiveness' of educational expansion in terms of economic growth or other national indicators (see UNESCO 1993; Fuller/Rubinson 1992). Instead, we focus on the individual perspective, namely on how increased levels of educational attainment and changes in the educational structure towards stronger vocational orientation have affected the returns to education. More precisely, we investigate how achievement in specific educational tracks is related to labour market chances, strictly speaking to social class position, how the returns to these educational credentials have changed over time due to changes in the educational system, and how this varies between countries. For the purpose of the present paper, we propose to look at West-Germany, France, the United Kingdom and Hungary.

We will begin the paper by outlining theoretical perspectives on the consequences of educational expansion for the labour market value of qualifications obtained and by briefly describing the institutional set-up and educational reforms of the last decades. We will then describe the datasets that we used in our analyses, the coding of the variables, the methodological proceeding and briefly outline central changes over time and cross-national differences in the educational and occupational distributions. In the empirical analyses we will first address the returns to higher education. We will examine to what extent higher education provides access to the highest social class positions in the respective countries and in how far the returns to it have changed in the course of educational expansion and educational reforms. The second part of the analyses will focus on the distinction of vocational qualifications as compared to general education. We will investigate in how far and in what way vocational qualifications matter in the respective countries, how the returns on vocational qualifications relate to the returns on general education certificates. In the final section of our paper, a summary of our findings and perspectives for future research will be presented.

* Financial support from the Deutsche Forschungsgemeinschaft has been gratefully acknowledged.

2. Theoretical perspectives

The relationship between education and labour market- or life-chances is a major preoccupation of sociological and economic research. We confine ourselves to a review of the most well-known hypotheses on how the educational expansion and associated reforms might have affected the link between educational attainment and labour market outcome.

Theories of modernisation assume a tightening bond between formal education and labour market position in the course of educational expansion. Modernisation theory together with Human Capital theory as an important influential, assume a positive correspondence between educational expansion and industrial modernisation. As Western societies industrialise and 'modernise', markets become increasingly competitive, economic structures move toward higher levels of value-added industrial production, technology become more complex and economic organisation more bureaucratic. This gives rise to 'rational' criteria of employee recruitment in order to survive in competitive markets (Dahrendorf 1959) and to occupations that require high levels of skills. The development of modern society brings with it an overall upgrading of the occupational structure (Bell 1975) shifting employment from agricultural and manual jobs to non-manual, managerial and professional jobs (Flora 1975) that require high levels of human expertise. These developments and the diffusion of 'universalistic' criteria of social selection imply that formal education has increased in importance in job allocation (Treiman 1970; Parsons 1951; Blau/Duncan 1967). In conclusion, schools should increasingly function as selecting agencies for occupational role allocation; modern industrial society both fosters rising individual investments in education and absorbs higher levels of educational attainment.

By contrast, approaches that rely on the idea of increasing individualisation within society claim a disintegration of the certainties of industrial society (Beck 1994). Individualisation is associated with a decline in the allocative power of education (Beck 1986) due to which the nexus between education and labour market outcome should have decoupled. This implies that levels of attendance steadily increase, while the certainties of being allocated to work places corresponding to one's education decline. In consequence, single educational groups should be more wide-spread over the whole range of labour market positions than in former generations.

Proponents of conflict-theory come to a similar conclusion but from a different theoretical angle. They argue that the use made of educational credentials in employment decisions depends on whether education serves the interests of superordinate groups by identifying 'insiders' to a 'status group' and by posing legitimate barriers to 'outsiders' (Collins 1971, 1977). The struggle over educational requirements is seen as conflict between competing status groups - between superordinate groups that try to maintain their privileged position by posing legitimate entry barriers to 'outsiders' of the group and of subordinate groups that try to gain access to those positions. In the course of educational expansion, which in itself is a consequence of the struggle of subordinate groups to achieve the monopolised positions, higher proportions of subordinate status groups succeed in attaining the required entry tickets. As a consequence, superordinate groups raise the standards of educational requirements in order to reinforce their privileged position. This creates what Collins (1979) calls 'credential inflation' implying increasing levels of educational attainment and decreasing returns to education.¹

Thurow's (1975) labour queue-model would come to the same conclusion if, compared to the increase in educational attainment of the labour-force over time, we assumed a lower or constant rate of change of the occupational structure and/or a process towards occupational degradation (Braverman 1977). Both developments would imply that the supply of higher educated school-leavers - who rank ahead of the labour queue - exceeds the number of vacancies that require higher educational levels. In this case, higher proportions of the higher qualified school-leavers would be allocated to less attractive vacancies than before. At the same time, lower qualified school-leavers would be displaced into even less favourable positions than before or even into unemployment. In conclusion, under the above defined conditions of occupational change, educational expansion means decreasing returns to education for all educational groups.

1 Jonsson (1996: 138) has also argued for the case of Sweden that educational requirements are negotiated between the actors that participate in the recruitment process. It depends on the relative power of single actors that are involved in the bargaining process over recruitment requirements whether and which educational credentials are used as a screening device.

It is important to mention, though, that Thurow's labour queue-model does not always provide an adequate representation of the mechanisms that govern job allocation (see Brauns/Steinmann/Kieffer/Marry 1997). First, it does not give a realistic picture of job allocation in countries where manual and non-manual occupations are highly professionalized, where occupational labour markets prevail as segmentation theory puts it. In such kind of labour markets, vocational education is highly valued because it creates the occupational skills that are of immediate use for the job at hand. Job applicants need not to be ranked according to their potential 'training costs' - in a labour queue where the mere principle of 'the more education, the better' counts. By contrast, in countries where internal labour markets prevail, Thurow's labour queue-model seems to suit better. In such kinds of labour markets, the vocational education system is not perceived as producing the required work skills. Instead, employers need to rely on specific screening filters (other than vocational qualification) for evaluating school-leavers 'trainability', namely their potential to develop in-house the skills in question. In this case, job-applicants are supposed to be ranked on a vertical dimension primarily according to their level of general education. Vocational education does not offer a competitive advantage over a more general curriculum. What counts is one's relative position in the distribution of general education. Educational expansion, now, is supposed to have a higher chance in such a system to be accompanied by displacement processes in which higher qualified school-leavers push aside the lower qualified whether those have vocational qualification or not.

Second, the labour queue-model assumes that higher educated school-leavers are those who are ranked first in the labour queue and will be allocated first down the hierarchy of job opportunities. In reality of modern organisational recruitment, however, this procedure bears only limited rationality. For many positions, overqualified and therefore under-rewarded workers are not perceived as very productive, primarily due to potential lack of job-satisfaction and motivation. In addition, firm-specific investments into training of the job of over-qualified workers are risky, because over-qualified employees are expected to leave the firm as soon as they are offered a job elsewhere that matches their education. Consequently, to some degree employers might tend indeed to allocate higher qualified school-leavers to less rewarding job vacancies. Mismatches resulting from too large discrepancies between the level of the job to be filled and the applicant's education, however, will be avoided. Seen from the perspective of the job applicant, it is also plausible to assume that he will accept occupational degradation along the distribution of job opportunities only to a limited extent and might rather prefer unemployment until he finds a job more adequate to his qualification. The degree to which he prefers occupational downgrading relative to his educational attainment over unemployment depends on various factors, one of which is of course the periodic labour market situation. In conclusion, exceeding supply of higher qualified school-leavers relative to the availability of 'corresponding' job vacancies might to some degree generate processes of displacement of lower-qualified school-leavers by the higher-qualified. To some degree, it might also lead the higher-qualified to prefer or be driven into unemployment.

A theoretical position that expects the exceeding supply of higher education graduates not to be absorbed by the labour market is central to the German educational discourse on the effects of educational growth. The „proletarianisation-hypothesis“ (Schlaffke 1972) suggests increasing proportions of unemployed among higher education graduates („Akademikerarbeitslosigkeit“) mainly due to a relatively slow or non changing job opportunity structure for the higher qualified.

In the German educational discourse² different theoretical viewpoints on the consequences of educational expansion are closely related to assumptions on the rate and the direction of change of the occupational structure. An opposite position to the unemployment-thesis has been formulated by Teichler/Hartung/Nuthmann (1976). These authors assume socio-economic transformation associated with changing organisational structures in such direction that new opportunities for the higher qualified are created. In consequence, the increasing proportions of higher education graduates are expected to be absorbed by the labour market without experiencing a major decline in the returns to education.

None of the presented theories is sensitive to the institutional context in which labour market processes are embedded. Yet, recent comparative research has provided strong evidence that the specific institutional character of the educational and employment system highly determine how different educational credentials are valued on the labour market (Allmendinger 1989; Müller et al 1989; Erikson/Goldthorpe 1992; Shavit/Müller 1997; Maurice et al. 1982; Marsden et al. 1995). There are few international comparisons, however, on how *educational growth and institutional reforms* have indeed

2 Blossfeld (1985) and Handl (1986; 1996) give both an excellent review of the German educational discourse on the consequences of educational expansion.

affected the returns to specific educational credentials, to what extent the consequences are identical across countries, as implied by the above cited approaches, and to what extent they vary, in total or for single educational groups (for an exception see Shavit/Müller 1997). In the latter case, findings may provide better understanding of how the consequences of educational expansion for specific educational groups are related to the institutional characteristics of the educational and the employment system.

Despite all commonality in the underlying principles and the general trend of educational expansion in post-war societies, we witness today - more than three decades after the beginning of the educational reforms - a high degree of diversity among European education and vocational training systems. A closer inspection reveals distinctive national strategies and arrangements by which higher education has been reformed and 'modernisation' of the vocational qualification system has been realised. The variations in institutional arrangements and national enrollment patterns reflect the particular historical, societal, political and economic circumstances to which national education systems and participating actors have responded and due to which original educational priorities have partly been renegotiated (see OECD 1994; UNESCO 1982; Fuller/Rubinson 1992).

Our analysis considers the whole range of educational credentials. Yet, specific interest lies on two aspects, tertiary education and vocational qualification. As argued above, the opening of tertiary education, modernisation and expansion of the vocational qualification system was a central landmark of the educational reforms in most Western societies. In the following, we will give a brief overview over the tertiary and vocational education systems in the four countries.

3. The educational systems

Tertiary education

Tertiary education has experienced changes of a fairly similar type in all four countries. These changes involve first of all a massive quantitative expansion: higher education is no longer for a small social elite, but for significantly larger sections of the population. Second, we witness a high degree of institutional diversity in most educational systems, along with a wide range of qualification opportunities. The strong quantitative increase in higher education graduates could for sure only be realised by a process of institutional differentiation through implementation of new forms of higher education. To a large extent, these new forms of higher education have developed outside the universities which has made up the non-university sector a central branch of modern higher education. In most countries, the non-university sector also served the purpose to build up capacity in high-level vocational education. In contrast to the academic universities, these institutions offer primarily short-cycle courses that are more strongly oriented towards practice and application. In some countries, especially France and Hungary, a number of these institutions (those for technicians, nurses, kindergarden- and primary-school teachers for example) are indeed not truly new-founded, but former secondary-level educational institutions that have been shifted onto the tertiary level. By contrast, the universities adapted relatively slowly to changing economic requirements. Finally the strain on universities to depart from a purely academic orientation had been so considerable that in most societies universities have increasingly implemented career-oriented courses of study.

In *Germany*, academic training is traditionally provided by the universities, including the technical universities ('Technische Hochschulen'). They require at least four years of study, in practice most students study longer. In the late 60s, the 'Fachhochschulen' and, in some Länder, a small number of short-cycle institutions were founded as less academic institutions. The courses cover three years of study; students' graduation time is reliably predictable. Although Germany has not established separate higher education institutions reserved to an exclusive elite formation or to the training of higher civil servants, explicit links between educational certification (State examination following university studies for example) and careers in the civil service traditionally do exist (Müller 1994).

In *France*, tertiary education is highly stratified. Long-study cycles are offered by the universities and the prestigious 'Grandes Ecoles'. The long-cycle university studies underwent several reforms. First, the curriculum has been reorganised into a sequence of cycles, the first of which qualifies with the DEUG on the level 'Bac+2'. Second, university institutions for the training of engineers ('Instituts Universitaires Professionnalisés', IUP) have been created in 1991. In contrast to the universities, the 'Grandes Ecoles' have continued their tradition in a formation of a very small elite in the whole range of scientific disciplines. In the last decade, though, a variety of smaller 'Grandes Ecoles' have been founded especially in business studies that are far less prestigious than the traditional ones. The elite, however, whether in the civil service, academia or the private economy is in large parts still recruited from the 'Grandes Ecoles' (Suleiman 1979, 1995; Bauer/Bertin-Mourou 1995a, 1995b). Short-cycle more strongly to practice oriented studies are offered by the 'Sections de Technicien Supérieur' (STS) that are implemented in some technical 'lycées' and by the 'Instituts Universitaires de Technologie' (IUT) as well as by institutions for nurses and primary school teachers.³

In the *United Kingdom*, with the creation of the polytechnics, a 'binary system' has been set up with the universities divided from polytechnics and other colleges. The Polytechnics and technical colleges (as sub-degree courses) offered degree courses, including higher degrees as the Higher National Diploma (HND) or the Higher National Certificate (HNC). Their degrees had to be validated by the Council for National Academic Award (CNAA) or by a university. In the early 1990s, all Polytechnics (and several Colleges of Higher Education) became degree-awarding bodies in their own right and have been granted university status. First-degree studies are embedded in the universities or colleges. They are undergraduate courses, mostly Bachelors, that require about three years of study. Post-degree courses⁴, held in the universities, refer to the Master's-degree or the Ph.D. In the UK, the relation between universities and professions follows a quite different pattern from that of Germany and France (see Abbott 1988: 195ff). The English professions administer most of their education

3 The qualification level 'Bac+2' combines a diverse mixture of qualifications in France. It refers to technical qualifications that are the most prestigious among the shorter courses due to their selective recruitment, many other qualifications from applied training (nurses, kindergarden teachers e.g.) and to the DEUG ('Diplôme d'Etudes Universitaires Générales') which is in general attributed to those who are selected out after the first university cycle.

4 Almost all first-degrees are full-time, a large part of the post-graduate and the majority of the sub-degrees are part-time.

outside the universities. Some of the professions, like those in science and only recently the engineers moved into the universities within the framework of a three to four year study program (Lane 1989: 80f).⁵ British colleges and universities formally confer the same standard of education. Yet, Oxford and Cambridge are highly selective in recruitment and endow their students with much better employment chances than other universities.

The *Hungarian* system of higher education distinguishes between the universities that traditionally offer four to six years of academic studies and the colleges. During the period of centralized one-party control the universities have adopted more vocational-oriented course programmes which - as the number of admitted students - were set in strict accord with the needs of the planned economy (König/Lüttinger/Müller 1988). Doctoral programmes were formally organised by separate research institutions. Since 1993, they are integrated into the universities (OECD 1995). Comparable to the German *Fachhochschulen*, the Hungarian colleges have a stronger vocational orientation than the universities; they offer a three or four-year formation. In the post-war period, training of primary school and kindergarden teachers has been shifted to the tertiary level as well as that of technicians which has formerly been located in the 'Technika'.

Despite these changes of a fairly similar type in all four countries - expansion and diversification of higher education -, a closer inspection reveals distinctive cross-national differences. The German 'Fachhochschulen' have implemented a rather sophisticated program reflecting a clear upgrading over time⁶ of the former schools of engineering, schools of social work or specialised colleges for business and economics as well as a sharp contrast to the short-cycle institutions in other countries. The more sophisticated orientation of the German 'Fachhochschulen' compared to the other countries is mirrored in the occupational fields and positions for which students are prepared: Whereas the French and British short-cycle institutions qualify technicians, high level secretaries or nurses, the German 'Fachhochschulen' are characterised by studies such as engineering, business studies, applied sciences, social work etc..

In the higher tertiary education sector, we also find strong cross-national variations if one takes the extent to which students are recruited selectively as a criterion. In other words, the countries strongly differ with regard to the existence of institutions of elite education and the extent to which the universities have succeeded in coping with the increasing enrolment rates without losing their exclusivity. Neither Germany nor Hungary dispose of highly selective higher education institutions. In this respect, France and to some degree also the UK sharply contrast to Germany and Hungary. Elite higher education institutions that traditionally exist in France and the UK have been relatively unaffected by the educational expansion and the reforms. They are still highly selective and confer a high level of prestige. As to the universities, France has responded to the increasing 'massification' by decoupling the first two years as a 'quasi' independent cycle leading to the DEUG ('Diplôme d'Etudes Universitaires Générales'). At the end of this cycle, students not eligible for higher university degrees are selected out. The case of the British universities, besides Oxford and Cambridge, is more complicated. If one conceives the First-degree, that is achieved by the majority of British university graduates, as higher level tertiary education, then the set of qualifications offered by British universities is more heterogeneous and the educational profile of university graduates more basic than in the other countries. More precisely, the majority of British university graduates seems to qualify on a level that is slightly above the German 'Fachhochschulen' and in between the French 'Bac+2' and the 'cycles longues'.

What does this imply for change over time and cross-national differences in the occupational chances of higher education graduates? First of all, we would expect increasing occupational chances for lower tertiary education graduates in Germany due to the institutional and programmatic upgrading of the 'Fachhochschulen' over time. By the same token, German 'Fachhochschul'-graduates are supposed to have better occupational chances than graduates from short-cycle institutions in other countries, especially France where a number of these institutions are former secondary-level educational institutions that have been shifted onto the tertiary level. At the same time, we would expect 'Fachhochschul'-graduates in Germany to be more in direct competition with higher tertiary education graduates than in other countries (especially France) for three reasons: First, the 'Fachhochschul'-graduates profit from sophisticated education which is - despite its practical components - still very theory-based and therefore not too far behind university education. Second, in contrast to France and the UK, Germany does not dispose of elite higher education institutions that recruit their students in a

5 Abbott (1988: 202) refers to the UK as a country where a strong state was largely absent during the creation of modern professions. By contrast, the French and the German state created the institutions that trained professionals in order to provide him the loyal civil servants that he needed.

6 In recent years, we also observe a continuous programmatic upgrading of the 'Fachhochschulen' which try to endow themselves for competition with the universities. Some of them even aim at receiving the university status.

highly selective way and provide a 'direct channel' to the most advantageous occupational positions. Third, the German universities are supposed to have lost their exclusivity in the course of educational expansion presumably more than the long-cycle of French universities due to the latter's practice of selecting about 50% of their students out until the DEUG and of a selective recruitment after the first cycle.

The higher relative standing of the 'Fachhochschulen' compared to the short-cycle institutions in other countries should also be reflected in a pronounced advantage over graduates of upper secondary education even over those with additional vocational qualification. In the other countries, especially in France and the United Kingdom, graduates of lower tertiary education are not supposed to be much ahead of upper secondary graduates. The United Kingdom is a case that stands apart from the other countries as there is no credentialist tradition. Even as regards access to management positions, as Steward et al. (1994) have shown, formal qualifications only play a minor role: Higher education offers no guarantee for career advancement into the ranks of managements nor will British managers be excluded from top management simply on the strength of educational credentials. In addition, a central difference to Germany and Hungary, but also shared by France, is the relative importance of general cognitive skills in the UK compared to specific expertise as it is achieved and certified by the vocational training system. Due to the preference for general cognitive skills over technical expertise which is especially salient when it comes to recruitment into management positions (Lane 1989; Steward et al. 1994), vocational skills on whatever educational level should in the United Kingdom and France be of more limited value than in Germany.

Vocational education

In the last decades, substantial technological and economic transformations have made vocational training reform a major issue. A need for conceptual, planning and supervisory functions was identified in most advanced industrial societies which implied considerable technical expertise and general skills. The latter was seen as a precondition for a flexible work-force that would be able to adapt smoothly to continuously changing demands of skills (Lutz 1994). In vocational education we find today a high degree of institutional diversity among the four countries, reflecting different historical traditions and different strategies by which the challenges of modern industrial society were addressed.

In *Germany* vocational training (including training of technicians) primarily takes place in the dual system. In contrast to other countries, apprenticeship training, in particular in commercial occupational areas, also provides an attractive option to holders of the 'Abitur', often prior to taking up university studies. The dual system of vocational training will not be reviewed here in detail as it is discussed in length in many other places (see CEDEFOP 1991; OECD 1996). In recent years, however, the dual system of vocational training has been heavily criticized, in particular for not being oriented towards modern occupations and for not producing the cognitive and scientific skills that seem to be necessary for coping with more complex and steadily changing technological environments.

Even though *France* has experienced a massive increase in school-leavers equipped with vocational or technical qualification certificates, there is still a stronger emphasis on general education and a relatively weaker one on vocational education than in the German educational system. Vocational qualification is predominantly provided within the state-controlled educational system. The educational reforms have shifted entry into vocational training towards the third grade, thereby opening up new qualification tracks. The BEP ('Brevet d'Enseignement Professionnel') which prepares in two years of study after third grade has largely replaced those CAPs which were prepared in three years of study after fifth grade. The CAP is now primarily an apprenticeship qualification. Apprenticeship training has a very low status; it is perceived as an option for those who have been 'selected out' in the general school-system. In the mid 80s, vocational 'Baccalauréats' ('Baccalauréat Professionnel') have been implemented in the wake of the BEP that can also be accomplished in the framework of apprenticeship training.⁷ In contrast to Germany - and according to French tradition - , the task of training and provision of technicians was taken over by the national educational system by means of introducing the technological tracks in the 1960s. Technicians are supposed to be hired directly from the technological tracks which are implemented on the upper secondary and lower tertiary level ('Bac technologique', 'Sections de Technicien Supérieur', 'Instituts Universitaires de Technologie') (Drexel 1993).

In the *United Kingdom*, initial vocational training can be part of a traditional apprenticeship, of one of the Further Education institutions, the higher education sector or, more recently, of a Youth Training Scheme (YTS). Yet, until recently, the majority of young people went straight into employment after having completed compulsory

7 The objective was to remedy the 'dead-end' character of vocational training in France and the bad reputation of dual forms of vocational training.

schooling. Even though Britain shares with Germany the tradition of apprenticeship training, it has much more similarity with the French system as regards the overall preference for general education and 'generalists' as opposed to training preparing for a skilled trade that is supposed to generate mere 'specialists'. Despite its tradition going back to Guilds of the middle ages, apprenticeship is not as wide spread as in Germany. It is - as in France - mainly confined to the traditional crafts. In addition, the quality of apprenticeship training steadily declined since the 1960s. Training became more and more firm-specific. (This development might have made the British System to move from a setting where occupational labour markets prevail in direction of the French setting which is supposed to be characterized by the prevalence of internal labour markets). The institutions of Further Education offer a variety of programs and qualifications. Until recently, vocational training has been largely unregulated and unstandardized. In the early 1990s, the government began to unify the standards in the framework of the National Council for Vocational Qualifications (NCVQ). The NCVQ but originally established to approve those awarding bodies and their qualifications that meet specified standards. National Vocational Qualifications (NVQ) can be taken at five levels, ranging from level 1 as 'Foundation' to level 5 as 'Professional Management'. At the same time, Youth Training was introduced to guarantee a training place to all 16-17 years old that are not in full-time education or employment. Technicians have traditionally been craftworkers in Britain that were promoted without further formal training. By the early 1980s, the Engineering Council developed technical and engineering education and certification for it. The title of the technician engineer (T.Eng) requires the HNC/HC or the HND/HD (level 4 of the NVQ), the title engineering technician (Eng.Tech) the ONC/OND (level 3 of the NVQ) and, as the first does, several years of work experience.

The vocational qualification system in socialist *Hungary* reveals some similarity to the German one due to the common historical roots. The vocational schools had a dual component - rooted in the former apprenticeship-system. Yet, pupils did not apply to a firm for a training in a specific occupational field but to one of the trade schools that, in turn, allocated the pupils to training places in selected firms. The technical schools were quite prestigious because of their opportunity of parallel qualification. They offer maturity certification while granting skilled-worker qualifications at the same time.

There are various dimensions on the basis of which national vocational qualification systems have been systematised and compared to each other with regard to their qualities and problems (Hannan/Raffe/Smyth 1996; Müller/Shavit 1997; Blossfeld 1992).

A first dimension refers to the balance between workplace and schoolroom as the primary locus of vocational training (see Müller/Steinmann/Schneider 1997; Blossfeld 1992). More precisely, vocational qualification systems may be characterised according to the degree to which theoretical instruction and practical learning are combined. There are three ideal-types to be distinguished: on the one end, we find vocational education primarily in the framework of full-time schooling with a strong emphasis on theoretical instruction (France); on the other end of the continuum we find a predominance of learning-by-doing where the school-leaver is instructed on the job without achieving school-based theoretical instruction in separate schools (United Kingdom). In between these two extremes, we find dual forms of vocational training where theoretical and practical experience are combined and compatible to each other (Germany and Hungary).⁸ In most (contemporary) theoretical discussions, vocational systems that are well-balanced between practical learning and theoretical knowledge are considered the most efficient in terms of the quality of training and trainees' occupational chances. Training takes place in real life situation without neglecting a broad theoretical understanding of the occupational activity. This combination is supposed to correspond to the need of a work-force that is immediately productive without being mere 'specialists', flexible in adapting to changing technologies, relatively autonomous in doing the work and eligible for supervisory functions.

A second dimension to classify vocational education systems refers to what Allmendinger (1989) has called 'degree of standardisation' (see also Blossfeld 1992). Standardisation is high when training has adopted the same standards nation-wide and when certificates display this uniformity in standards (Germany, Hungary and school-based training in France). Standardisation is low, by contrast, when training content, quality and awarding depends on the specific firm, employer or school without a legal structure that insures co-ordination and validation of training content, leaving-certificates etc. (United Kingdom until recently). In highly standardized systems transition from education to employment is expected to be smooth, occupational placement and career patterns of vocationally qualified school-leavers are supposed to be relatively predictable.

A third characteristic relates to the broader institutional environment in which the educational system and labour market processes are embedded. It refers to the degree to which occupational activities are professionalized and require specific (vocational) certification (credentialism). Abundant research

8 The training systems existing in the various countries represent mixtures of these forms in which one of the forms of training more or less dominates.

in the decades following WWII has provided evidence that vocational qualification (as compared to general education) guarantees occupational entitlement in countries where occupational labour markets prevail. Viewed from one angle, prevalence of occupational labour markets might then be seen as an important precondition for valuing vocational qualification. In countries where occupational activities are historically not professionalised and where there is no such tradition of a clear-cut demarcation between skilled and unskilled work as in Germany e.g, expansion and whatever kind of 'modernisation' of the vocational education system (as clearly the case in France) might then not have much impact on whether vocational qualification matters in job allocation or not. Research in industrial and organisational sociology, though, has described occupational labour markets as *resulting* from educational systems with a strong emphasis on vocational training (German-Austrian tradition countries) where typically apprenticeships prevail. Viewed from another angle, it might then be plausible to assume that occupational labour markets develop such that a nexus between vocational qualification and occupational entitlement will be established, once the national education system indeed produces large proportions of school-leavers that are endowed with technical expertise and work-related skills as in contemporary France for example.

So far, we have mentioned some hypotheses on central dimensions that are supposed to affect the returns to vocational qualification in one way or the other. In all countries, educational expansion and the institutional reforms within vocational education suggest changes in the returns to vocational qualification. To what extent and in what way the reforms in the respective countries have had an impact on the value of vocational qualifications is difficult to predict and should therefore be left as an open question to our analyses. Has the expansion and modernisation of vocational training systems indeed made vocational qualification a useful and positive indicator of school-leavers occupational and cognitive skills? How do countries with different traditions of valuing vocational qualifications differ in this respect? Or has the expansion of upper secondary and tertiary education made basic vocational qualifications a second-class issue, to an even stronger extent in those countries where vocational qualifications are traditionally not very highly valued?

4. Data, variables and educational and class distributions

For the present analysis we use labour force survey data for Germany, France and the UK.⁹ For Hungary we use data from mobility surveys of the Hungarian Statistical Office. The samples used refer to the resident population, excluding foreigners. For each country the data refer to a year in the early 1980s (1982-1984) and in the early 1990s (1992-1994). The interval between the two observation points varies slightly by country (9 years in Hungary, 10 years in France and the UK and 11 years in Germany). For each point in time we present data for two age groups (25-34 years and 35-44 years) and separately for men and women. One of the major advantage of the labour force surveys is the large sample size which allows estimates with relatively small sampling errors. For Germany the size of the samples per age group and gender varies between approximately 15.000 and 32.000; for France and the UK between about 6.000 and 10.000. Only for Hungary the samples are considerably smaller: the number of cases per group varies between about 1.600 and 3.200.

In the analyses we mainly use three variables: Unemployment, education, and class position at the time of interview. For unemployment we use the definition of the International Labour Office. Class position is coded according to the EGP class-schema (Erikson and Goldthorpe 1992). For education we use a slightly modified version of the CASMIN-educational classification (Müller et al. 1990). The CASMIN-educational schema systematically distinguishes between general and vocational qualifications. In the earlier version of the scheme this distinction is only applied to qualifications at the elementary and the intermediate secondary level. In the version used in this paper we apply this distinction also for qualifications at the level of full secondary education, i.e. on the maturity level, the Abitur, the baccalauréat or A-level. The details of the definitions for education and social class used in this paper can be seen from table 1 and 2.

In table 3 and in table 4 we show the marginal distribution of education and social class by country, gender and the two age-groups. From the educational distributions we see that the countries vary considerably in the kind and level of education obtained by the individuals included in this analysis. Educational expansion experienced by the various age groups and gender also varies between countries.

For Germany, the data confirm the high degree of vocationalism, which is well known for Germany's educational system. Vocationalism even increased from 1982 to 1993, in particular for women. About two of three members of the younger age group have either a vocational qualification at the elementary (1c), intermediate secondary (2a) or full secondary (2c voc). The proportions of cohort members who only have general qualifications at the elementary or secondary level are very small. In the course of time, the level at which vocational qualifications are obtained, has become increasingly higher. Another characteristic of Germany's educational system is that it takes students considerably longer to obtain a degree than in other countries. This explains why in 1993 the proportions of 3a and 3b qualifications are lower in the younger age group than in the older cohort (see also the large proportions not in the labour force among the younger age group in table 4). The distributions for women also reflect the German peculiarities, but for women there is more change in time and the female distribution is more concentrated on the secondary level than the male distribution. In the oldest cohort much more women than men had only compulsory education; in 1993 the respective numbers for men and women are about the same. At the tertiary level, however, women have still lower participation rates than men.

In France and in the UK, the educational distribution is more unequal than in Germany. We find more persons in one of the extreme categories of the CASMIN-classification, at the bottom (in particular among men in France) as well as at the top (in particular in the UK). Consistent with the description of the educational reforms given above the data show that both countries have moved towards the German model: the proportion of cohort members with vocational qualifications has increased; but even in 1994 such qualifications are still much less frequent than in Germany. In France, close to half of the younger men have obtained such qualifications, in the UK about one third. In France, educa-

9 For the UK we make use of the LFS 1984 and QLFS 1994. The material is Crown Copyright and has been made available by the Office for National Statistics through the Data Archive and has been used by permission. Neither the ONS nor The Data Archive bear any responsibility for the analysis or interpretation of the data reported here. We thank INSEE for providing access to the French 'Enquête Emploi'. The authors bear responsibility for the analyses and the opinions expressed here.

tional expansion was particularly strong for women. In 1994, younger women seem to have clearly higher qualifications than younger men.

Hungary resembles Germany with a strong emphasis on vocational qualifications at the elementary level. It differs from all three other countries by the lack of intermediate secondary qualifications. Instead, it provides larger proportions of young people with a full secondary education from which many directly enter the labour market. Quite large numbers among them have obtained advanced vocational qualifications in the polytechnic tracks of secondary schools. Hungary also differs from the other countries by a relatively small proportion of school-leavers with tertiary qualifications, and by a lower rate of educational expansion from the 1980s to the 1990s, altogether.

While the marked increase among vocationally oriented qualifications in France and in the UK could be interpreted as growing convergence in the educational distributions among the countries under study there are other trends which rather point into a direction of divergence, in particular within tertiary qualifications. Consistently with the design of the educational reforms the different segments of tertiary education did grow at different pace. In France, the various kinds of short tertiary curricula assigned to the 3a level are now clearly the most frequently obtained tertiary degrees, in particular in the younger cohort and among women. Connected with sharp selection procedures qualification on the 3b level kept some exclusivity. In the UK, to the contrary, the efficient and short courses of study leading to the first degree (in a large number of cases in three years) turned the UK into the country - among the set of the nations studied - with the far largest proportions of graduates with 3b education. The nature of these qualifications may, however, somewhat differ from 3b qualifications in the other countries and may also provide different career prospects. Germany, finally, failed, so far, in the attempts to shorten university education and also produced quite demanding lower tertiary degrees. In addition, a relatively large proportion of German university students are studying until the age of 30. All this might have as an effect that - compared to France and the UK - at age 25-34 a substantially smaller proportion of a cohort has already obtained a higher tertiary degree.

The countries also differ markedly from each other in the class distributions. The differences can be conceptualised in terms of the level of de-industrialisation and growth of the service sector. The UK is most advanced in this direction, followed by Germany and France, and - at a large distance - Hungary.¹⁰ For men, the growth in the proportion of jobs available in the non-manual classes and the decline of manual jobs was at best very small, in some cases change from the 1980s to the 1990s had even the reverse direction. In all countries, the number of non-manual jobs mainly expanded for women. The growing labour force participation of women reinforced the increasing feminisation of the service sector. Men, however, were quite able to defend their predominance in the upper Service Class.

In view of the substantial educational expansion between the 1980s and the 1990s, it is of particular interest to which extent the upgrading of the structure of qualifications is paralleled by an upgrading of the class structure. Upgrading takes place most clearly when the number of unskilled jobs declines and the number of jobs in the Service Classes grows. Considering these indicators we hardly find an upgrading for men, somewhat more for women. For men, there is no marked decline in the proportion of unskilled jobs (VIIab + IIIb) except for Hungary. The decline in Hungary, however, is mainly due to the substantial growth of the Petty Bourgeoisie (Class IVabc), but not paralleled by growing Service Classes. The proportion of unskilled workers only slightly declines in the older age group in Germany and the UK (in both cases from 20 % to 17 %). As in this age group the Service Classes grow in both countries, there is thus some indication of an upgrading of the occupational structure. But otherwise, and in particular for younger men, the class distributions remain rather stable in terms of the traditionally implied qualification requirements.

For women, there is a more consistent upgrading. Unskilled jobs decline and those in the Service Classes grow. France is an exception to this trend. There is some decline of jobs of unskilled workers in France as well, but this trend is counterbalanced by an even stronger increase in unskilled service jobs in Class IIIb. But as in general the upgrading in the class positions available for women has been stronger than that for men, inequalities in the class distributions for men and women slightly decline.

10 As indicators of this development we can contrast the proportions of skilled and unskilled manual workers (Classes V -VIIab) to those of the non-manual Classes I-IIIab. In the 1990s these proportions (among men in the younger age group) are for the manual classes in the UK 45 %, in Germany 56 %, in France 58 %, and in Hungary 70 %; for the non-manual classes 44 % in the UK, 38 % in Germany, 34 % in France and 21 % in Hungary.

Taken together, no country has experienced an upgrading in the class structure that is of similar strength as the upgrading of the educational distribution of the two age groups of men and women.¹¹ This unbalanced change in the distributions by education and class most likely will lead to changing class destinations for educational qualifications.

There are two other far reaching labour market developments not considered so far: changing labour force participation and unemployment. For well known reasons, these developments are again rather different for men and women. For men employment declines and unemployment and being out of the labour force increases. Only in the UK unemployment among men declines. Among women the rates of employment and unemployment increase while economic inactivity decreases. The exception here is Hungary, where in the course of transition from socialism to capitalism, employment strongly goes down, while unemployment and inactivity raise.

In the next sections, we turn to the association between education and labour market outcomes and trace its changes over time, first for the link between tertiary education and employment in the Service Classes and then for labour market outcomes of general and vocational education at lower qualification levels. In both instances, we measure returns to education both in *absolute* and *relative* terms. Returns in absolute terms can be measured by the proportions among holders of a given qualification who reach specific destination classes. Returns in relative terms relate to the competitive advantages provided by a given qualification compared to other qualifications. It is conceivable that, for instance, for university graduates the absolute chances to obtain a Service Class job decline as the number of such graduates grows, but that the relative chances remain constant or perhaps even increase. In the following we begin with the absolute returns and then turn to the relative perspective.

11 The upgrading of the class distribution for women was slightly more pronounced than that for men. But educational participation also raised more among women than among men.

5. Higher education and access to the Service Class

Obtaining tertiary qualifications has traditionally provided good opportunities to get access to the Service Class. Different types of jobs in the Service Class, however, vary in the extent to which tertiary qualifications are more or less indispensable recruitment criteria. In most countries entering the professions is more dependent on education than access to managerial jobs in the Service Class. The latter quite often can also be reached with lower qualifications via experience in a successful bureaucratic career. A related problem concerns business owners and other persons working on own account who according to the EPG schema are coded as Service Class. A detailed study of the relationship between tertiary education and Service Class employment and in particular of changes in this relationship would therefore imply to account for the composition of Service Class jobs and for compositional changes. In the present analysis we cannot enter into this problem. We present a rather global description of the linkages between tertiary qualifications and employment in the Service Class. We will investigate, how these linkages have changed in the last decade - a decade which is characterised by a steady increase in workers with different kinds of tertiary qualifications. We concentrate on graduates with qualifications 2c, 3a and 3b, because for school leavers with lower qualifications the chances to obtain a job in the Service Class are very small. We include 2c qualifications into this analysis as a standard enabling us to see how tertiary qualifications - compared the highest level of secondary qualifications - improve the prospects to find employment in the Service Classes.

Absolute returns to tertiary qualifications

Figure 1a (for men) and figure 1b (for women) show outflow percentages into Service Class I and Service Class II for graduates of the three highest qualification levels (3b, 3a, 2c). In each figure results are given for respondents at age 25-34 and respondents at age 35-44. The proportions reaching Service Class I are shown in the lower (brighter) part of each bar; the proportions reaching Service Class II in the upper (darker) segment of the bars. Both segments together show the proportions of graduates who reach either Service Class I or Service Class II. The findings can be summarised as follows:

1. The chances of the graduates from the three qualification levels to reach Service Class I or II differ quite considerably. The pattern of these differences is rather similar in all four countries, although not identical. The basic similarity of the pattern extends to both age groups, periods and gender, although a more detailed inspection of the findings reveals some differences between all these sub-groups.

- For graduates with 3b qualifications the similarity between countries is largest. In all countries the overwhelming majority of these graduates reach either Service Class I or Service Class II. The exact figures vary between 76 and 97 %; of the 32 outflow percentages to the combined Classes I+II only six are below 85% (2 for men and four for women). Clearly more of these graduates obtain a job in Service Class I rather than in Service Class II. The only exception are women in the UK. They rather obtain jobs in Class II than in Class I. In the UK, women's chances to reach Class I are much smaller than those of men and much smaller than in all other countries.
- Also most of the graduates with 3a qualifications reach Class I or II, but compared to 3b qualifications a much larger proportion of them obtain a job in Class II rather than in Class I.
- Among 2c-graduates the prospects to reach a Service Class job are much lower. In most cases the percentage amounts to 40% or less with the majority found in Class II. Most of the jobs are in Class II. The only exception are the men of the older age group. Between 50-60% of them reach either Class I or II. It seems that for men full secondary education can open quite good prospects to eventually reach a Service Class job in the course of the occupational career.¹²

2. In several respects class outcomes differ between men and women.

- Returns to 3b qualifications appear to be better for men than for women: A larger proportion of

¹² However, we do not know whether this is still true for men who leave the educational system at present. The youngest cohort of men whose job at age 35-44 is measured in our data, have left the secondary school system between 1970 and 1980. It is quite possible that these opportunities no longer exist.

men than women enters the Service Classes I or II; in addition, more men reach the most advantageous positions in Class I, while more women only obtain jobs in Class II. These disadvantages of women compared to men are particularly strong in the UK, and they seem to be weakest in Germany.

- For 3a qualifications, the situation is different. Still relatively more men than women reach Class I, but the proportion of women who enter Class II so strongly exceeds the proportion of men, that in all countries (except Germany in 1993) the proportions of women who obtain Service Class jobs (either I or II) is clearly larger than the respective proportion of men. These gender-specific outcomes and the variation between countries are most likely due to the institutional arrangements of the training for technician and foremen jobs which are coded into Class V. In Germany training for such jobs is typically not provided in the institutions of lower tertiary education. It is part of vocational training at lower levels and still part of special institutions who provide continued education for skilled workers to become technicians or masters in their craft or trade. In most other countries the respective training is usually affiliated with the 3a level. This explains, why (except Germany) fewer men than women with 3a qualifications reach jobs in Class II. These men are rather found in Class V or eventually even in Class VI. The contrast to Germany is particularly strong in France.
- Among graduates with 2c qualifications again fewer women than men reach Class I. The contrast between men and women is particularly marked in the older age group. As observed above: Men make careers while women don't, whatever the reasons may be.

3. In almost all comparisons returns to higher education decline from the 1980s to the 1990s. When opportunities are measured in terms of access to the Classes I+II, the decline is smallest for the highest qualifications (3b), in all countries and for both gender. For 3a and 2c qualifications the extent of decline varies by gender and partly by country. For men (with the exception of the UK) returns to 2c qualifications diminish more than returns to 3a qualifications, for women the contrary seems to be the case. In some cases access to Class I diminishes more than access to Class II, in other cases the reverse is true. There is no general pattern in this respect.

A few country-specific findings are worth mentioning, because they are very clear and consistent and can be linked to institutional changes. In Germany, the chances of access to Class I consistently improve for graduates with lower tertiary qualifications (men and women, and in both age groups). But in turn, the chances of access to Class II diminish the more. In consequence, between the 1980s and 1990s returns to qualification 3a become more similar to returns to qualification 3b. The improved occupational prospects of graduates with 3a qualifications corresponds to the institutional upgrading of the 3a educational institutions (the Fachhochschule).

The conclusion of a general decline in absolute returns to the educational credentials considered here is most problematic for the 3b qualifications of men in Germany and France. In Germany access of 3b-graduates into the combined Classes I+II hardly changed. The exact figures are 90.1% in 1982 and 89.4% in 1993. As, however, access to Class I declines from 79% to 73%, one can consider job prospects as slightly less favourable. In France, for men and women, the chances to reach Class I improve for graduates with 3b qualifications. For French women -but not for men -, the better chances to reach Class I are more than counterbalanced by worse chances to obtain Class II jobs. Thus, in sum, returns to education slightly declined for French women, but not for men.¹³ However, considering the fact that a substantially higher percentage of French 3b graduates are unemployed in 1994 (7.8 % among men) than in 1984 (2.8 %), even French men do not represent a real exception to the general trend of declining absolute returns to education.

One crucial result from this outflow analysis is thus that, except for a few special circumstances, absolute returns to higher education declined in all four countries. At all levels of higher education, fewer graduates reach the most advantageous jobs in the Service Classes in the beginning of the 1990s than 10 years earlier. Yet, the decline is in general not dramatic, in particular for 3b qualifications. In only one of 48 period comparisons the proportions to reach the Service Class I or II diminishes by

13 One would need more detailed analysis to explain this finding for France. At any rate the chances to reach Class I improve for both graduates of the higher cycles of university education and for graduates from the Grandes Ecoles. Comparing the marginal distributions in the tables 1 and 2 one can see that the number of jobs in Class I grow to an extent which matched the growth of 3b qualifications. However, as in France education and class at the top of society is so closely related, one would like to have independent observation for the changing labour markets and the changing output from the educational system for a serious test of the hypothesis of parallel trends or of even improving opportunity structures.

more than 20 percentage points (2c-women in the older age group in France¹⁴). In five comparisons the drop is about 15 percentage points. In 21 comparisons it is between 6 and 12 percentage points and in another 21 of the 48 comparisons it is only 5 percent or less. In particular for the 3b-qualifications the decline is partly as small that the differences between the two points in time are statistically not significant. However, as the decline is quite systematic we think the data reveal a general trend even if some of the differences might not satisfy the conventional criteria of statistical significance.

Returns to qualifications relative to each other

So far, we have discussed changes in the returns to education in an absolute sense, measured in terms of the proportion of single educational groups who reaches one of the Service Classes. How do the class outcomes of one educational group now compare to those of another group? And how do the competitive advantages of these qualifications change over time? As a first measure of such relative class outcomes we calculate the outflow ratio oq_1 / oq_2 where oq_i is the outflow percentage to destination Class I (or I+II as indicated in the table) at qualification level i . The results are found in table 1a and 1b. The first column for each country shows the outflow ratio for 1993. The second column shows how this ratio has changed in the 1990s compared to the 1980s. The ratio for the 1990s is divided by the ratio for the 1980s. Thus, the top left figure in table 1.a for Germany means that in 1993 the chances to reach Class I are 5.55 times as large for 3b-graduates than the corresponding chances of 2c graduates, and the figure 1.406 in the second column for Germany indicates that in 1993 the competitive advantage to reach Service Class I of 3b graduates over 2c graduates - compared to 1982 - has increase by 40.6 percent . Commenting on the figures, we focus first on the results in column 1 and concentrate on how the competitive advantages among the three qualification levels vary between countries in 1993. Then we will discuss how they have changed in the last 10 years.

We will begin with 3b-graduates among the younger men and compare their opportunities to obtain a job in Class I to the opportunities of 2c graduates (see the first line in table 1a). The figures reveal strong cross-national variation in the extent to which occupational prospects of 3b graduates exceed those of 2c graduates. In Hungary and France graduates with a full university qualification (including those from the grandes écoles in France) have much better prospects to enter Class I than those with only secondary qualifications. [In Hungary the 3b-2c discrepancy in occupational opportunities is as large as it is mainly because 2c graduates have less favourable absolute prospects than in all other countries.] In Germany the advantages of the former are still large, but clearly lower than in France and Hungary, while in the UK the relative gains of a first or higher university degree appears to be much smaller than in all other countries. What is the position of the lower lever tertiary qualifications as compared to higher tertiary degrees and upper secondary qualifications? In Germany, the chances of this group are far above those with only secondary qualifications. In 1993 they are not much below the more traditional university graduates. In France, on the contrary, Bac + 2 means far less promising occupational prospects than Bac+3 or +4 and only minor advantages over maturity qualification. In the UK, 3a graduates are quite close to 2c-graduates and - in spite of the much smaller span of differentiation within tertiary education - also further below 3b qualifications than their German counterparts. In Hungary, the relation between 3b and 3a is about the same as in the UK, but because of the rather limited opportunities of 2c graduates, there is a large gap between 2c and 3a.

So far, we have focused on access to Class I. The pattern of country differences is similar when we consider access to Classes I and II combined. But in this case, the competitive advantages of higher qualifications appear smaller because more graduates with lower tertiary qualifications than graduates with higher ones obtain Class II jobs. The advantage of the latter to reach jobs in Service Class I is compensated by the strong affinity of the former with Class II jobs.

For the 35-44 year age group the pattern of country differences is again very similar to the younger group. However, at a higher age the competitive advantages provided by higher over lower qualifications is smaller because we observe these graduates at a more advanced stage of their career. As most of the 3b graduates already obtain a job in Class I when they enter the labour market they reach

14 In France, both kinds of 2c-qualifications - general and vocational - lost systematically in labour market value, for men and women in both age groups. But the loss was stronger for vocational qualifications than for general ones and stronger for women than for men. While the baccalauréat in older cohorts was quite a valuable credentials the data clearly show its continued decline.

the ceiling of our measurement, even if in reality, they may move to better jobs within Class I. When graduates with 2c or 3a qualifications who begin working life in Class II or even below Class II are able to move into Class I later in their career the differentials in class destinations among the various qualification levels become smaller.

For women, the pattern of country differences is similar to the pattern found for men. However, for women the competitive advantages of 3b over 3a qualifications tend to be larger than for men when we consider access to Class I. The reverse is true concerning access to the combined Classes I+II. Women need more than men 3b qualifications in order to have good chances to obtain Class I positions. With 3a qualifications they are very much confined to Class II-jobs.

Perhaps the most interesting figures in table 1a and 1b are those in the second column of each country. They indicate how the competitive advantages of higher over lower qualified school leavers have changed between the early 1980s and the early 1990s. In most of the cases they became larger, in other words: the differences in the returns to education have increased to the profit of the higher qualified. Among men, there are only two exceptions. In Germany, due to the upgrading of the 3a qualifications the prospects of graduates with 3a qualifications to obtain Service Class I jobs became more similar to the graduates with 3b qualifications. In the UK, 3a qualifications became more similar to 2c qualifications, mainly due to the fact that fewer 3a graduates reached a position in one of the Service Classes, because - as outlined before - these qualifications are increasingly used as entry requirements for jobs of technicians and formen (coded in Class V).

For women we find the following over time: In France and Hungary the gap between all educational group widens. This holds true for access to Class I alone and to Class I + II combined. In Germany and the UK, the changes between the 1980s and 1990s are less uniform. It would involve much deeper analysis than is possible here to trace a detailed description and explanation of the developments.¹⁵

We have replicated this analysis of relative chances with two other measures which have well defined statistical properties. First, we calculated odds ratios contrasting the educational levels as in table 1a and 1b. But the outcomes are not outflow percentages to the Classes I or II (as so far), but the odds to obtain a job in one of these classes rather than in any other class. This analysis thus takes into account the changing composition of classes between the two observation points. All conclusions from this analysis - the figures are not presented here - turn out to be the same as those based on the figures in table 1a and 1b.

In the second step we have applied multinomial regression analyses in which education level 1ab and destination Class VIIab constitute the reference category. Evidently, this is basically the same as calculating odds-ratios. However, with the choices of the reference categories we now contrast extreme destinations (Class I vs. Class VIIab) and we observe the competitive advantages across the full range of qualifications. Among 2c qualifications we distinguish general and vocational credentials. The results of these analyses are given in figure 2. The graphs basically show how the odds to find employment in Class I rather than in Class VIIab vary for the various qualifications contrasted to only compulsory education (1ab). In the upper two graphs we see how the odds of access to Service Class I improve as individuals obtain higher qualifications. The graphs refer to the 1990s population and allow a direct comparison between the countries. In the lower graphs we compare for each country respectively the measurement in the early 1990s with the measurement 10 years earlier. Beginning

15 Between the 1980s and the 1990s labour force participation of women considerably increased, and the changing selectivity associated with it make a satisfactory account much more difficult for women than for men. For Germany the partly declining differences in labour market outcomes among the three qualification groups are mainly due to two developments: first, for women with 3b qualifications the chances to reach Class I considerably decline, and second, for women with 3a qualifications the occupational destinations become more heterogeneous: while in 1980 about 80% or more of employed women with these qualifications are found in Class II, this destination is much less frequent in 1993, and more women are found either in Class I (similarly as for men as a consequence of the upgrading of the Fachhochschule) or (for yet unknown reasons) in Class IIIa. The English patterns are even more difficult to understand. Here, women with 3a qualification had extremely low chances to obtain Class I positions in 1984, even lower than women with 2c. In 1994, these chances have improved, and this makes the occupational destination of these women in 1994 more similar to women with both 2c and 3b qualifications, in particular in the older age group. At the same time the chances of women with 2c also improved while those of women with 3b qualifications partly declined. This contributed to a narrowing gap in the class destination between the 2c and 3b group. While these are descriptive accounts of what the figures show, this evidently is not an explanation of the changes.

with men, the findings can be summarised as follows.

As to the differences between the countries (see the upper two graphs of figure 2a) we first find a marked difference between the UK and the three other countries towards the end-point of the lines, as regards 3a- and 3b- qualifications: In the UK the competitive advantage of tertiary qualifications compared to other qualifications is less marked than in other countries. This result replicates Müller and Shavit's (1997) finding. However, according to the LFS-data used here, the effects of education on labour market outcomes are considerably stronger than the effects found by Heath and Cheung (1997) with the data from the National Child Development Study (NCDS, sweep 5). It is interesting to note, however, that this result for the UK seems to be mainly due to the fact that in this country tertiary qualifications provide weaker gains. On the 2c-level the UK differs much less from the other countries than for the two tertiary qualification levels. At the lower qualification levels, it seems that the contrast is not between the UK and the other countries. We rather find the UK and France on the one side, and Germany and Hungary on the other side (but considering also the 35-44 age group, the position of Hungary is not as clear). The two groups of countries mainly differ in the impact of vocational vs. general qualifications. In Germany and Hungary vocational qualifications at the primary and secondary level tend to be more valuable on the labour market than general qualifications on the same level. In France and the UK general qualifications tend to be at least as valuable as vocational ones or even more valuable. This can be seen most clearly in France. Here 1c (vocational qualification beyond compulsory schooling) does not provide better chances to reach the Service Class than 1ab qualifications. On the intermediate secondary level and on the level of the Baccalauréat general qualifications (2b and 2c gen) provide better chances than the vocational qualifications of the corresponding level (2a and 2c voc). In France, 2c general qualifications even provide opportunities to obtain employment in Class I which are comparable to those of 3a degrees.

When we compare the two age groups two results concerning the competitive advantage of tertiary qualifications confirm the observations made before: First, these advantages are slightly less pronounced in the more advanced career stage than at career beginning; second, at the more advanced career stage, the UK seems to differ somewhat less from the other countries than in the early career stage. As in the UK the proportion of 3b-graduates who are found in Service Class I positions at the age 25-34 is smallest among all countries (see figure 1) there is some room for these graduates for upward mobility in later career stages and to improve class destination compared to the lower qualified school-leavers.

The changes over time are shown separately for each country in the four lower graphs. In general the line for the 1990s is below the line for the 1980s except tertiary qualifications in Germany¹⁶ and France. For Germany and France, we can therefore conclude, that there was no decline in the competitive advantage of tertiary qualifications over compulsory education as regards the odds of obtaining a Service Class I position rather than one of an unskilled worker. The advantages of all non-tertiary qualifications (except 2c gen in France), however, declined. At the same time, this implies that - compared to tertiary qualifications - the relative odds in the race for jobs in Service Class I became more difficult for all non-tertiary qualifications (except for compulsory qualifications): Tertiary qualification became more important as an entry ticket to the highest social class positions. It became relatively more important to have tertiary qualifications in order to get access into Class I. For Hungary and the UK the findings are slightly different: Here even the competitive advantages of tertiary education declined, although at least in Hungary somewhat less than those of non-tertiary qualifications. At any rate, in the UK and Hungary, the relative odds of tertiary qualification did not become weaker relative to other qualifications, except for the reference category.

Comparing France and the UK we find an interesting difference as regards change over time in the relative labour market value of secondary vocational vs. general qualifications. In 1984 general education tended to be more valuable than vocational qualification. In France, this tendency became clearly stronger in 1994. In the UK, the development is reversed: In 1994 vocational qualifications are at least as valuable as general ones.

For women, we find much similarity to the findings for men in the pattern of competitive advantages of the various kinds and levels of qualifications. For men and women, the differences in class destination between the least and the highest qualified are very similar. Also countries are ranked in simi-

16 The horizontal slope between 3a and 3b for the 1983 line in Germany is most likely an outlier resulting from the small number of 3b graduates who usually enter the VIIab reference class. For unknown reasons this number is unusually high in the 1982 survey and is responsible for the unusually low estimate for the 3b effect in this year.

lar ways: For women as for men, the UKs tertiary qualifications provide smaller gains in terms of competitive advantages than comparable qualifications in other countries. Concerning change over time, the results for men and women, however, differ to some extent. While in Germany and France similarity prevails in this respect, the development for women in the UK and in Hungary is contrary to the development for men: To an even stronger extent than in the early 1980s, almost all qualification levels above minimum education provide better relative opportunities to obtain a job in Class I. For Hungarian and British women education effects seem to have become stronger.

At first sight, these results seem to contradict the previous findings that in all countries the absolute returns to education clearly differ between the sexes. Even at comparable level of education much fewer women than men are found in Class I. Access to Class II was also clearly different for men and women.¹⁷ We have to remember that the logistic regression models are insensitive to marginal distributions. When - due to gender segregated labour markets, differences in labour force participation, discrimination by employers or other reasons - the class distributions for men and women differ, the logistic regression models 'neutralise' these differences. By the logistic regression models we measure, whether the chances of women to obtain one of the few Class I jobs available to them are structured the same way according to education as they are for men who have more Class I jobs available to them. The results show, that they are. This does not invalidate the finding that in absolute terms occupational prospects of women differ from those of men, and with respect to access into Class I they are clearly worse. It is important to retain both results: the absolute differences in the pattern of opportunities and the similar role played by educational credentials in differentiating the chances of access into positions which are more or less frequently reached by men and women.

To sum up, the findings provide support for the expectations we derived from the institutional descriptions of the systems of tertiary education and their reforms. While in all four countries, obtaining tertiary qualifications is a crucial step for finding and securing employment in one of the Service Classes, there are consistent differences between the countries in the extent to which tertiary qualifications improve these opportunities and in the way in which the two kinds of tertiary qualifications differ from each other. Compared to the other countries, obtaining an university degree in the UK clearly provides the smallest advantage over secondary education, although the importance of tertiary qualifications is not that weak as earlier findings have suggested. At the lower level of tertiary degrees we find even more cross-national variation in the occupational prospects than at the traditional university level. The gap between both levels is particularly large in France and particularly small in Germany.

It is not easy to establish the mechanisms responsible for these outcomes. Yet, the differences found between the countries are consistent with the variation in the institutional set-up of tertiary education. It appears plausible that the more heterogeneous collection of courses of study leading to a first degree in the UK and the relatively short and compact way in which such degrees can be obtained lead to the outcome observed for the UK. The extreme contrast between Germany and France in the differences of returns to the two levels of tertiary qualifications also consistently mirrors the low level profile of the French institutions and the quasi-university orientation of the German Fachhochschule.

In all countries absolute returns to tertiary qualifications have declined over time although in relative terms tertiary education kept its competitive advantage over lower level qualifications. We will discuss these results more extensively at the end of the paper when we know more about the developments at the elementary and secondary level of qualification and about the impact of general vs. vocational qualifications to which we now turn.

17 except the differences among male and female 3a graduates, of which more men enter more often Class V-jobs while women more often enter Class II jobs.

6. General versus vocational education

In the view of the fundamental social and economic change under way in all industrial societies, it is often argued that vocational skills have gained importance to meet the interest and the demand of the economy and in particular to be competitive in the European Common Market. Another argument points to the increasing importance of general skills. Technological progress is supposed to require general cognitive abilities, abstract and logical thinking rather than specific occupational skills. General education is considered to be more effective and flexible in adaptation to new requirements because of its transferability. The four countries have chosen different strategies to cope with that problem dependent on the institutional characteristics of their educational and vocational system on the one hand and on properties of labour market structures on the other.

Despite the national institutional differences there is a major tendency in all countries in the last few decades to put more emphasis on the vocational training system even though on different levels and to a different extent. In this section of the paper, we focus on the importance of vocational qualifications as compared to general education in job allocation.

As in the previous section, we concentrate in a first step on an absolute measure in using two indicators: i) Most all industrialised societies are faced with the problem of increasing unemployment rates. Our main question here is whether vocational skills provide pathways into the labour market or, in other words, help to avoid unemployment. Another aspect is in how far unemployment is structured according to educational level on the one hand and according to educational differentiation between general and vocational on the other. ii) The second indicator addresses the question whether vocational skills not only provide access to the labour market but also enhance the odds of employment in a qualified job. What are the differences in the rewards to general vs. vocational skills in terms of *access to qualified or skilled work rather than unskilled work*? Do the countries vary in the extent to which vocational qualifications open access to qualified work positions? Are the differences due to national peculiarities of the VET system?

General vs. vocational skills and the risk of unemployment

Table 6 shows for the two age groups of men and women the rates of unemployment. The most obvious finding is that the risk of unemployment differs quite remarkably according to the educational and vocational qualifications attained. The chances of finding a job increase the higher the level of education. This pattern is rather similar in the four countries, for both age groups, periods and gender. Not the pattern itself differs between the countries but the absolute level of the unemployment rate. Germany and France have about the same level of unemployment in the 1980s. For the UK, the fundamental changes in the economy, for instance the de-industrialisation began during the early 1980s, following the election of the Conservative government in 1979. This is reflected in a higher absolute level of unemployment even in 1984. It is astonishing how quickly in Hungary's transformation from a socialist to a capitalist economy the same structure of unemployment has been reproduced. In all countries, the group of the least qualified school-leavers is faced with the highest risks of unemployment whereas holders of 3b (university-) qualifications have the best prospects to get employed. However, a more detailed inspection indicates some differences between the countries and the sub-groups.

- For Germany and France, it is not only the level of education attained that reduces unemployment risks but also having vocational skills. In both countries vocational qualifications enhance the chances of entering the labour market. In particular graduates with 2a qualifications have exceptionally good prospects of getting employed - in Germany in the 1980s and 1990s, in France in the 1990s. For the UK, the pattern is not as clear. In particular in the 1990s (for men) the differences between general and vocational qualifications largely disappear and what really counts is the level of education.
- Comparing both age groups we find in general lower unemployment rates for the older age group but with a more or less unchanged structure of unemployment risks.

As to the differences *over time* (between the 1980s and the 1990s) the risk of unemployment stayed more or less unchanged for the UK - having in mind the already higher absolute level in the 1980s. In Germany, the unemployment risks increased more selectively. Workers with elementary and inter-

mediate general qualifications were hit most, partly also workers with full secondary qualifications. By contrast, the rates have increased for almost all educational groups in Germany and for all groups in France. Considering only the absolute level of unemployment, France has moved in direction of the UK. The unemployment rate in France has doubled in all educational groups, and even among the university graduates which is not the case in Germany. Compared to the other countries, today, French university graduates face the highest unemployment risks. However, the changes over time in the absolute level of unemployment do not affect the *structure* of unemployment risks. In all countries, the risk of unemployment is structured with educational levels and this pattern remained relatively stable in the observed period.

For *women*, the pattern of cross-national variations are quite similar to that of men, but again a few differences should be mentioned. We observe that in particular younger women with maturity level qualifications have lower risks of unemployment in the 1990s compared to the 1980s in Germany and the UK but not in France. In France, the increase for younger women is extremely high and above the average. Furthermore, compared to the general maturity certificate, the increase over time (and the absolute percentage) in unemployment among vocationally qualified maturity holders is much higher. In consequence, the Bac technologique and the Bac professionnel seem to endow women with vocational skills that are not very highly valued in the labour market.

To summarise, the overall pattern - independent on the respective absolute level of unemployment - reveals that the risk of unemployment varies with educational attainment. In countries with a well established vocational training system as in Germany or with new vocational tracks introduced during the last decades holders of vocational qualifications - in particular at the intermediate level (for men) - have better chances to get employed compared to holders with only general education. For the UK, we cannot capture the consequences of the fundamental changes that are currently undergoing the vocational training system. The advantage of vocational qualifications compared to general qualifications are not found in the UK to the same extent. Instead, the risk of unemployment is mainly determined by the level of education and not by the differentiation between general and vocational skills.

General vs. vocational qualifications and the access to skilled or qualified jobs

Our second indicator for measuring the absolute returns to general and vocational education refers to the outflow- percentages into qualified job positions as shown in figure 3a and 3b. According to our definition, qualified positions are those found in Classes I, II, IIIa (as non-manual positions) and Classes V and VI (as manual positions) and self-employment (Petty Bourgeoisie; Class IVab).¹⁸ Unqualified positions are equated with Classes IIIb and VIab. Each of the three figures (for men and women respectively) relates to a specific educational level and opposes the outflow percentages of only generally qualified school-leavers to the outflow percentages of vocationally qualified school-leavers at the three different educational levels: compulsory, lower secondary and upper secondary education.¹⁹ In each figure, the contrast between vocational and general education is shown for all four countries. Vocational qualifications are shown in the dark bars, the corresponding general qualifications are shown in the bright bars.

As a general finding we observe in all four countries - with a few exceptions - an absolute decline in the chances to access skilled or qualified positions from the 1980s to the 1990s. It became more difficult for members of all educational groups to get access to qualified positions. A second characteristic of this overall pattern is that the proportion of qualified jobs is clearly correlated with level of education, if we ignore the differentiation between general and vocational qualifications for a moment: the least qualified (1ab qualifications) have the lowest chances and each step upward in the hierarchical order of educational levels increases the chances to be employed in a qualified position with the highest chances for 3b qualifications²⁰.

Whereas the proportions of skilled employees among graduates at the upper end of the educational hierarchy are rather similar between the countries, the chances of individuals at the lowest end of the educational hierarchy differ quite remarkably in this respect. In France and in the UK, more than half

18 The category of the Petty bourgeoisie is quite heterogeneous between the different countries and for instance for the UK it is not a privileged position as it is in Germany with relatively high income and high autonomy.

19 The outflow percentages of the various educational groups are based on individuals in gainful employment.

20 In the following, we concentrate on the secondary level and below. The findings for tertiary graduates are discussed in detail in the first section of the analysis.

of the least qualified have the opportunity to enter a skilled rather than an unskilled job.²¹ To the opposite, the German and the Hungarian labour market provide only limited opportunities for the least qualified to get a skilled work position.

If we focus on the differentiation between general or academic and vocational qualifications, we observe that the prospects to reach qualified jobs are in all countries much better for vocationally than generally qualified school-leavers at the lower²² and the intermediate level of the educational hierarchy. In Germany, this pattern is also mirrored at the full secondary level and it confirms the overall importance of vocational qualifications. At this level France and the UK are rather similar in exhibiting only minor differences between vocational and general qualifications. But in France, the chances of vocationally qualified to obtain qualified positions diminish more from the 1980s to the 1990s than in Britain. This is true for both, the intermediate and the maturity level. France and the UK represent countries with long-standing traditions where education is predominantly academic or general and where selection and recruitment practices are based mostly on educational attainment in general qualifications. In particular, the French general Bac and the A-levels in the UK are highly valued and this esteem is reflected in the stability over time.²³

For *women*, the country-specific pattern is again rather similar to that of men. Yet, in general at all educational levels women have lower chances to access qualified positions than men. This holds for all countries. Furthermore, there are only two country-specific differences between the sexes: first, 2a-qualifications have slightly gained in importance for British women as regards access to qualified jobs. Second, in Germany where vocational qualifications always provide better access to qualified jobs compared to only general qualifications, women with 2c vocational qualifications have been able to reinforce their position. Both findings are contrary to the general trend of a decline over time in the absolute returns of vocational and general qualifications that we find with our indicator.

In conclusion, from the 1980s to the 1990s the absolute chances to get employed in a qualified job have been reduced in all countries, for both, men and women, with only a few exceptions. This decline can be interpreted as a devaluation of educational credentials. We have to bear in mind though that we have considered so far only an absolute measure of finding access to qualified jobs in terms of outflow percentages. A relative measure might provide another conclusion. However, the contrasting of vocational and general or academic skills at the different educational levels has shown that it is not only worthwhile investing in vocational qualifications (independent on the educational hierarchy) in Germany but also in France and the UK in particular at the lower and the intermediate level. Vocational qualifications provide better chances of being employed in qualified positions than mere general education. At the full secondary level, both countries, France and the UK, put more emphasis to their highly valued certificates, the French general Bac and the British A-levels.

Returns to vocational qualifications relative to general qualifications

Following the same strategy as in the section on tertiary qualifications, we will now examine the returns to vocational qualifications in relative terms, that is as opposed to (only) general education. To what extent have holders of vocational qualifications an advantage (disadvantage) compared to generally qualified school-leavers and how has their relative position changed over time? In a first step, we calculate the odds ratios (based on the outflow percentages) that indicate the chances of vocational degree holders at educational level *i* to be in a qualified position rather than in an unskilled position in relation to the chances of holders with general qualifications at educational level *i*. The re-

21 This opportunity has decreased in France in 1994 but has slightly increased in the UK. The increase in the proportion of skilled employment among the least qualified is mainly due to a growth in self-employment (category of the Petty Bourgeoisie IVab) and to a minor extent to the higher chances to obtain a qualified non-manual job (Class II and IIIa).

22 If we consider only qualified jobs in the non-manual service sector (table is not presented here), similarities also occur between the countries regarding the 1c qualifications. The proportions of the most recent data indicate that vocational qualifications at the lower level are typically qualifications in craft occupations leading to skilled working-Class positions in the manual sector. (Men holding vocational qualifications at the lower level have only minor chances to access qualified non-manual jobs.)

23 For Hungary, we even observe an increase over time in the chances of male maturity certificate holders to access skilled work. The transformation of the former socialist society affected predominantly the industry and there the heavy metal industry. Other branches of the economy and the administration had experienced rather a restructuring than a total collapse. General or academic qualifications might have proven their transferability.

sults are presented in table 7. The first column shows the odds ratios for the 1980s and the second column for the 1990s. The comparison of both odds ratios indicates the changes over time.

The relative measure of the odds ratios reconfirms the general findings discussed above. For this reason, we limit our discussion to the younger age group. Beginning with younger men in the 1990s, we observe striking differences at the lowest educational level among the countries in the competitive advantage of vocational over the least (general) educated groups. In Germany and Hungary, holders of vocational qualifications (1c) have more than 5.5 times higher chances to get employed in qualified positions than the least qualified. In contrast, for France, the comparable measure is only about 2, and in the UK only about 1.4. This finding of larger competitive advantage for graduates with vocational skills in Germany than in other countries is replicated at all educational levels considered here and for both gender. Instead, in France and the UK (also in Hungary, but we have to assume here other forces at work) vocational skills at the full secondary level do not lead to better returns than general qualifications at that level. In some cases rather the contrary is true.

A comparison between the odds ratios shown for each period gives interesting clue on changes over time in the relative (dis)advantage of vocationally over generally qualified school-leavers. In Germany, the competitive advantage of graduates with vocational qualifications has increased over time. This confirms the overall importance of vocational qualifications on the German labour market which is historically structured according to occupational lines with entry barriers against those lacking any vocational qualification. The pattern for France indicates a declining competitive advantage for graduates with vocational skills compared to general qualifications. Vocationally qualified, however, are still in a head-position at the intermediate level of the educational hierarchy, but no longer at level of full maturity. There seems to be a clear line of division within the French Baccalauréats reflecting a marked advantage for holders of the Bac général over holders of the Bac technologique (and professionnel). In the UK, the change over time in the returns to vocational qualifications as compared to general education is less clear-cut and varies with age and gender. The most regular finding that holds for all age groups and both sexes relates to the intermediate educational level. At this level vocationally qualified school leavers have reinforced their advantages over generally qualified school-leavers.

To sum up, investing in vocational skills pays off in Germany independent on the educational level that is reached. This pattern is even reinforced over time. For persons in France, the UK and Hungary it is worthwhile investing in vocational qualifications at the lower and the intermediate level whereas the full general maturity certificate provides better opportunities as to access to qualified jobs than vocational maturity certificates.

We have concentrated so far on a very broad measure of labour market outcomes: access to qualified work. In this final part of the analysis we make use of the multinomial regression analysis presented in the section on tertiary qualifications in order to give a more detailed picture concerning access to the various Classes. Just to remember, the reference category in this model is educational level 1ab and destination Class VIIab. To reduce the complexity we concentrate only on a selection of the regression parameters and try to capture more or less 'typical' education - Class associations. For education we focus on the full range with the exception of 3b qualifications.²⁴ As to destination Classes we concentrate on Classes II and IIIa for non-manual work and Classes V and VI in the manual sector. The results are given in the figures 4a and 4b for men and women in the younger age group. (Basically we find within each country remarkable similarities between the sexes and the two age groups. Therefore, it is justified to concentrate only on the younger age group.²⁵)

We begin with the differences and similarities among the countries. There are two obvious findings: First, the associations between education and the specified Class destinations vary considerably across nations. Second, within each nation, the general pattern holds for both age groups and both sexes. Hence, there are idiosyncratic factors that structure national patterns of occupational stratification by education.

What do we observe in the single countries? First, in the UK, education matters the least: the slopes are very flat which indicates only a slight improvement in occupational chances with increasing level of educational attainment. By contrast, in Germany and Hungary additional education is highly rewarded. France has an intermediate position: education matters such that it depends on the specific

24 The employment chances of graduates from higher education have already been discussed in detail in the part before.

25 The respective figures for the older age group are presented in the appendix, see figure A-1a and A-1b.

credentials achieved. This result on the relative strength of education effects in the various countries reproduces the pattern that has been observed as to access to Class I discussed before.

Second, the competitive advantages for 1c qualifications are also consistent with earlier findings in this section. In Germany and in Hungary, vocational qualifications enhance the chances of employment in one of the skilled manual Classes, and the relative distance to the least qualified is marked. By contrast, 1c qualifications in the UK do not much improve occupational opportunities compared to the least qualified. The position of France is again in between, but closer to the UK than to Germany.

Third, contrasting vocational and general qualifications we observe for the countries the following patterns which mainly confirm our former results:

- Starting with Germany, at all educational levels vocational qualifications are more valuable than the corresponding general qualifications as to access to any of the destination Classes. For instance, 2a vocational qualifications do not only pay off in addition to general certificates for enhancing access to both non-manual or manual Classes, they 'beat' in their competitive advantages even *the next higher general* educational qualification (2c gen, the Abitur in this case). This holds true for both Classes in the non-manual and the manual sector reflecting the whole range of occupational qualifications in crafts, commerce, banking etc. that can be obtained. In comparison with the other countries, 2c voc qualifications seem to be an exceptional characteristic of the German educational and training system. In particular during the 1980s and the beginning of the 1990s increasing proportions of school leavers from the German Gymnasium have been attracted to enter the apprenticeship system mostly in occupational fields like banking and commerce. They seem to have very good job prospects comparable with those of 3a qualifications in other countries, for instance to the Bac+2 in France.
- In a slightly simplified way the contrasts of France and the UK to Germany can be put in the following way: For access to skilled manual jobs, a pattern similar to the one in Germany prevails: Vocational qualifications are more valuable than general ones of the same level. For access to the non-manual Classes, on the contrary, general qualifications are more valuable than vocational ones. This statement is oversimplified because for women in the UK and both gender in France, at the upper secondary level general qualifications appear to be at least as valuable as vocational ones even for the access to skilled manual Classes.
- In Hungary general qualifications at the maturity level seem to be slightly more valuable than vocational ones for any of the Class destinations considered. But the most striking result is that access into Class V (and not into Class II as in the other countries) seems to be most dependent on having a qualification beyond compulsory schooling. Particularly, 3a qualifications (certificate from polytechnical colleges) seem to be associated with jobs in Class V at least as strongly as with jobs in Class II.

To a large extent, the country-specific patterns discussed also hold for *women*. Only a few differences between men and women can be found for instance in Hungary where the close connection of 3a qualifications with Class V among men is switched to Class II among women, most likely a result of the gender specific segregation of the labour market that largely precludes employment of women in the skilled manual Classes.

The developments *over time* are presented in figure 5a and 5b separately for the non-manual Classes (on the left side) and the manual Classes (on the right side) for each country. The dotted lines indicate the results for the 1980s, the solid lines represent the ones for the 1990s.²⁶

The prevailing pattern for Germany and the UK and - with a few exceptions - for France and Hungary is one of smaller competitive advantages of education in the 1990s than in the 1980s. The decline affects women more or less in the same way as men and is valid more or less for both age groups.

The exceptions from the general patterns of declining effects are 2c general qualifications for French men and most of the qualifications for women in the UK. Other exceptions are found in Hungary among 3a qualifications for women and most of the qualifications for Hungarian men when it comes to skilled jobs in the Classes V and VI. In this cases effects of education became stronger in the 1990s rather than weaker.

As most of the lines for the 1980s are parallel to the lines for the 1990s, two conclusions seem to suggest itself: First, the structure of competitive advantages among the various qualification levels

26 The respective figures for the older age group are presented in the appendix, see figure A-2a and A-2b.

has remained more or less constant, and also the idiosyncrasies of the various countries have remained in place. Second, the change between the 1980s and the 1990s is merely a change systematically involving in the same way the distance to the reference category used in the analysis.

To sum up: The extent to which vocational qualifications provide competitive advantages varies across the countries. In Germany, vocational qualifications in addition to the corresponding general certificate clearly pay off. In France and the UK with a traditionally high prestige of general qualifications it is worthwhile to invest in vocational qualifications below the maturity level, even though the pay off compared to general qualifications is not as marked as in Germany. But on the maturity level itself, general certificates - the French Bac and the A-level in UK - have gained competitive advantages most strongly against 2c voc qualifications in France. Predominantly educational qualifications beyond compulsory education are slightly less an asset in the competition for qualified jobs in the 1990s than they were in the 1980s. In most of the cases, the decline in the returns to education, from the 1980s to the 1990s, does not affect the structure of the overall association pattern. The differences among the countries regarding the pay offs of investments in general vs. vocational qualifications are most likely due to differences in the organisation of the educational and vocational training system and the changes in the structure of the VET system during the last decades. However, at the end of this 'tour de force', we have to admit that the findings not always fit into a simple neat picture. A lot of additional work is needed to understand and explain the variations across countries and in particular its change over time.

7. Conclusion

In our paper, we have proposed a descriptive and preliminary examination of the consequences of educational expansion and reform in four European countries in terms of school-leavers' labour market chances. Our focus lied on the returns to higher education on the one side and vocational qualification as compared to general education on the other. So far, we have concentrated on two indicators of labour market related returns to education: first, the risk of being affected by unemployment; second, social class position for those who have succeeded in entering the labour market. We have decided to measure the returns to education in two ways: first, in absolute terms by taking the percentage among single educational groups that is affected by unemployment/reaches a specified class position and second, in relative terms by relating the chances of a single educational group to the chances of another group. This has been done on the basis of outflow-ratios and odds ratios derived from multinomial logistic regression. The absolute and relative chances were then compared over time and between the countries.

Which conclusions can be drawn from our findings? The findings allow a critical examination of the introductory mentioned theories only to a limited extent. Our paper cannot give an empirical account of the mechanisms that are supposed to be at work - whether superordinate status groups indeed make use of educational credentials in order to maintain their privileged positions, whether employers rank job applicants on a labour queue etc. Such kind of critical evaluation would require other data and other types of analyses. Yet, our findings might be contrasted to the theories as regards the predicted outcomes of educational expansion. Some of the theories predict stable or even increasing returns to higher education, others declining returns which implies either a process of displacement of the lower by the higher qualified or an increasing risk of unemployment for the rising proportions of higher education graduates.

Starting with the latter scenario, we find indeed today a higher percentage of unemployed among higher education graduates than in the early 1980s. The increased risk of unemployment, however, is not only confined to the highest qualified educational group, but has affected graduates from lower educational levels at least to the same extent. Consequently, as regards the four countries involved in our analysis, our findings seem not to lent much support to the hypothesis of a mere 'proletarianization' of higher education graduates (Schlaffke 1972). Yet, - corresponding to the underlying assumption of the 'proletarianization-hypothesis' - our findings show that no country has experienced an upgrading of the class structure over time that is of similar strength as the upgrading of the educational distribution. So where do the increasing numbers of high qualified school-leavers then go, if they are no more, even less driven into unemployment than lower qualified school-leavers? Our outflow-analyses have revealed that in all countries higher education graduates have definitely experienced a downgrading in occupational placement over time: smaller proportions of those who enter the labour market succeed in achieving the highest social class positions; larger proportions than in former times are more wide-spread over the range of occupations not 'corresponding' to their education. This finding clearly seems to reject hypotheses claiming an adequate 'absorption' (Teichler/Hartung/Nuthmann 1976) or even improved returns to higher education (Treiman 1970; even though it is not clear whether Treiman is arguing in terms of absolute or relative returns to education). By contrast, support is rather lent to theories that assume a decline in the occupational returns to higher education in the course of educational expansion, even though the decline that has been observed in the four countries is not dramatic. As regards country-specific differences, we found that the returns to higher education are relatively small in the UK and have decreased over time (at least as regards men). By contrast, in France and Germany where upper tertiary education is more restrictive than in the UK, the returns to tertiary education are higher and have not declined over time to the same extent as in the UK. This finding might give a clue on the relationship between educational expansion and returns to education: the more wide-spread higher degrees are, the more higher education degrees have been opened to a broader public, the less they are valued. We will not, however, leave our conclusion here.

Most contemporary socio-political and theoretical debates on the consequences of education are quite unclear on how the scenario of 'declining returns' to education is precisely understood (see Handl 1996). If one conceives of 'returns' to higher education not in absolute but in relative terms, then our findings provide a quite different picture: In relative terms, i.e. compared to the chances of lower qualified school-leavers from the secondary school system, higher education graduates have clearly preserved, if not reinforced their competitive advantage. This holds for all four countries. In

conclusion, the returns to higher education have indeed declined insofar as today's graduates face a higher risk of being allocated to job positions that do not 'correspond' to their education according to conventional expectations. The returns to it have not declined, however, in the sense of 'it doesn't matter whether you go for a higher degree or not'.

Our findings seem to lend most support to models that rely on the idea of displacement processes of the lower by the higher qualified as a consequence of the educational expansion. We do not know anything, however, on the mechanisms at work - to what extent Thurow's labour market queue-model, conflict theory or other approaches account for the underlying mechanisms.

In the second part of the paper we have attempted to understand how returns to general and vocational qualifications are embedded in a specific national context and related to prevailing labour market structures. Labour markets differ in the opportunities they provide and in the way they reward educational and vocational certificates. Related to the assumptions of Maurice, Sellier and Silvestre (1986) two models of labour markets are contrasted in the industrial and organisational literature: Occupational Labour Markets (OLM) and Internal Labour Markets (ILM). It is argued that training practices, the development of skills and their regulation by collective bargaining condition labour markets that function according to either of those two quite different models. The conditions under which OLMs operate at best are met by apprenticeship-type systems. By contrast, ILMs are relying more on continuous on-the-job-training (Eyraud/Marsden 1990; Marsden 1990; Lane 1996). Previous research has indicated that in Germany the OLM pattern predominates whereas in France ILM patterns are prevalent. For the UK, the results are not as clear, some authors argue that skilled manual work in industry is organised along occupational lines (Marsden 1990; Lane 1989; Sorge 1983), whereas others state that with the inflexibility of the apprenticeship system and its decline in the last few decades the British system has moved in direction of the French (Marsden/Saunders 1981). The introduction of the YTS (in 1981) and YT that has partly replaced the traditional apprenticeship system might have reinforced this tendency. Those programmes offer training more closely tied to the needs of individual employers (Eyraud/Marsden 1990) which supports ILM typical structures.

Broadly speaking our results are consistent with these models. In Germany, vocational qualifications are a crucial prerequisite not only to enter the labour market but also to get employed in skilled rather than unskilled work positions. At all levels vocational qualifications provide better chances to obtain qualified jobs than general qualifications. In France and the UK this is less the case or even the reverse is true. In particular, general qualifications on the maturity level enhance the chances to obtain a qualified non-manual position clearly more than vocational qualifications on that level. OLMs that emphasise and reward vocational skills, in turn establish barriers against those who lack such skills. This is confirmed by our finding that the German and the Hungarian labour market provide only very limited opportunities for the least qualified to reach skilled work positions. In France and the UK with the prevalence of ILMs their opportunities are less restricted. We should, however, not stress too much the model. In particular, on the lower levels of the educational hierarchy vocational qualifications are valuable resources in France and the UK as well, and in some aspects they also provide better returns than general qualifications on the same level.

We also find some support for the notion that the UK has an intermediate position between Germany and France. In the manual sector for which the literature often assumes an occupationally structured labour market for the UK, vocationally qualified workers have indeed better prospects for skilled jobs than workers with general qualifications, and this difference is stronger in the UK than in France. But the reverse is true for the non-manual classes. Here the British pattern is comparable to the French one and reflects the traditionally high prestige that is associated with the Baccalauréat general in France and the A-levels in the UK.

The introduction of various forms of vocational tracks in France might have changed the importance of vocational qualifications at the intermediate level, but definitely not at the maturity level. The division between the different types of Baccalauréat has kept an inherent vertical dimension with higher returns to general qualifications compared to vocational ones. In the French labour market context it still seems worthwhile to invest in general qualifications. In the UK, the vocational training system is currently undergoing changes, that seem to be more fundamental than the school oriented reforms introduced some time ago in France. Reviews of the training policies in the UK reveal that the reforms do try to standardise qualifications, to produce recognisable certificates in the so called 'certification-jungle', to establish a system that can be called a 'system', and to involve employers' interests and skill needs. But we cannot capture yet with our data the labour market consequences of these developments.

A third set of results concerns gender. As it is known from previous research, the gender gap in educational participation substantially declined in the last decades. Among the countries studied here educational disadvantages of women disappeared most clearly in France - but even there men still outstrip women when it comes to the most valuable 3b-degrees. - How did women's gains in educational participation affect their returns on the labour market? And to what extent are inequalities in returns to education between men and women country specific and perhaps related to the more general differences between countries in the education labour market linkages?

It is problematic to judge with our data the extent of labour market disadvantages for women, because we cannot control for different histories of labour market participation and work experience of men and women. Women who work are also a selective group and we could not control for that either. We have concentrated therefore mainly on the youngest age group when assessing gender differences. Until that age differences in labour market experience are not too large. However, we have to be very prudent when interpreting the descriptive results.

From all comparisons it is rather clear that the absolute returns of education for women even in the early career are smaller than those for men. This is particularly true, when it comes to access into the most advantaged positions in the Upper Service Class. There are only a few instances in which - from the 80s to the 90s - absolute returns for women increased relative to the returns for men. For example, in the UK and France women with 3b qualifications could slightly close the gap to their male colleagues in obtaining jobs in the Upper Service class. But there are also instances in which women lost compared to men, for example in France, where for all qualifications except higher tertiary degrees, the decline in absolute returns to education was in general larger for women than for men. In general, however, at each level of education the gender gap in returns to education remained relatively unchanged. As a preliminary conclusion one could say that women have improved their labour market prospects more or less proportional to their improved educational resources. In this way, the increased educational participation helped women to diminish somewhat the gender inequality in the class positions men and women obtain. Indeed, while from the 80s to the 90s men hardly made progress in obtaining more Service Class jobs, women did so.

While we found substantial differences between men and women in absolute returns to education, *relative* returns - as regards the distances between educational groups are astonishingly similar in particular concerning effects of education on access into the Upper Service Class. On lower levels of education relative returns vary slightly more between men and women, but they still show a high degree of similarity. For men and women, the various kinds and levels of education provide the same advantages or disadvantages in the competition for the various class positions even if these positions are accessible to a different extent for men and women.

As relative returns anyhow do not vary much between gender we should not expect much systematic country differences in this respect either. However, gender differences in *absolute* returns seem to vary cross-nationally, and these variations can perhaps be attributed to country characteristics. For lower tertiary qualifications the country differences in the patterns of gender differences are rather unsystematic, but consistent cross-national differences exist for higher tertiary and vocational qualifications at the intermediate and full secondary level. The gender gap is smaller in Germany than in the UK and France concerning to the opportunities of 3b graduates to obtain a position in the Upper Service Class, and it is also smaller in Germany than in the UK and France concerning the opportunities of graduates with vocational qualifications at the intermediate and full secondary level to obtain qualified positions. As in Germany tertiary qualifications also have quite a strong occupational orientation, one general conclusion could thus be that gender differences tend to be smaller in a system in which the linkages between given qualifications and work positions are rather specific²⁷.

Given the quite remarkable differences that exist in the educational and vocational training systems of the countries we have analysed, the commonality among them in the education-labour market linkages is still substantial. There need more work to be done to elaborate this commonality in order to capture the differences in more parsimonious ways.

27 However, we have to make a reservation here. In the data for the 1990s the gender gap among graduates of higher tertiary qualifications has declined in the UK to the German level. Also the findings for vocational qualifications on the elementary level (1c) is not consistent with those for vocational qualifications on the intermediate and full secondary level (2a and 2c voc). In this case, however, one would need more detailed analysis, because the finding has very much to do with gender segregated labour market. While men with 1c qualifications obtain positions of skilled workers, women often obtain unqualified jobs in class IIIb.

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Table 1:**The CASMIN educational classification**

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.
2a	All types of secondary school programs in which general intermediate schooling is combined by vocational training.
2b	Academic or general tracks at the secondary level.
2c	Full maturity certificates (e.g. the Abitur, Matriculation, Baccalauréat, A-levels).
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.

Table 2:**The EGP class schema**

Classes	Includes
I	Higher-grade professionals and administrators, and officials in the public sector
II	Lower grade professionals, higher-grade technicians, lower-grade administrators and officials, managers in small firms and services and supervisors of white-collar workers.
IIIa	Routine non-manual employees in administration and commerce.
IIIb	Routine non-manual workers in services.
IVabc	Small proprietors and artisans with or without employees, and self-employed farmers.
V	Lower-grade technicians and supervisors of manual workers.
VI	Skilled manual workers.
VIIab	Unskilled workers including agricultural labourers.

Table 3:

Distribution of education in Germany, France, the UK and Hungary by time period, gender and age group

Educ	D		F		UK		HUN	
	1982	1993	1984	1994	1984	1994	1983	1992
A Men 25-34								
1ab	10,2	7,1	31,4	21,9	31,6	17,7	16,6	13,6
1c	48,6	38,0	27,5	25,1	9,3	13,8	53,3	50,2
2b	1,6	1,2	7,7	6,4	11,9	16,0	--	--
2a	15,3	22,6	9,9	16,6	18,3	17,3	--	--
2c gen	5,5	7,2	4,4	4,0	7,7	8,1	7,5	7,2
2c voc	4,7	9,9	4,9	6,4	3,4	3,3	13,0	17,4
3a	6,9	6,0	7,2	10,5	4,6	8,2	5,7	6,6
3b	7,2	7,9	7,7	9,2	13,3	15,5	3,9	5,1
N=	31651	26941	11527	11901	10359	10878	3021	1933
B Men 35-44								
1ab	13,3	7,8	35,9	27,6	36,4	18,4	22,0	13,1
1c	55,7	46,7	27,0	27,8	15,7	19,0	47,6	53,7
2b	1,0	1,0	5,7	7,4	10,0	10,1	--	--
2a	13,3	17,2	7,7	11,2	13,8	18,2	--	--
2c gen	0,7	1,3	3,5	4,2	4,7	6,6	7,1	6,9
2c voc	2,3	5,7	3,4	4,5	2,8	2,3	11,0	14,5
3a	6,9	8,5	5,9	7,3	4,4	7,2	5,9	6,8
3b	6,8	11,7	10,9	10,0	12,2	18,2	6,5	5,2
N=	34354	23056	9998	12513	10203	10158	2693	2661
C Women 25-34								
1ab	19,2	11,4	34,2	21,3	42,9	22,5	33,9	23,8
1c	41,8	25,6	15,8	14,7	6,7	8,8	23,4	27,5
2b	4,2	3,1	10,1	9,1	22,0	28,3	--	--
2a	19,7	33,6	12,3	17,4	3,4	7,8	--	--
2c gen	2,8	4,6	6,8	6,7	6,8	8,0	18,1	14,6
2c voc	3,0	11,4	5,3	8,3	1,3	2,7	14,1	18,9
3a	5,3	4,1	9,6	14,0	7,7	9,2	7,6	10,6
3b	3,9	6,3	6,0	8,6	9,2	10,6	2,8	4,5
N=	31049	26526	11969	12216	10616	11891	3084	2084
D Women 35-44								
1ab	32,3	15,8	45,9	32,2	52,8	30,8	48,6	29,3
1c	39,6	39,4	15,6	15,5	10,9	13,3	18,4	24,4
2b	4,3	3,2	8,5	10,6	16,0	19,3	--	--
2a	15,5	23,5	9,7	13,1	2,8	6,2	--	--
2c gen	0,9	1,2	5,0	6,6	4,2	6,7	13,9	18,7
2c voc	1,5	4,6	2,3	4,7	0,4	1,3	9,8	15,7
3a	3,3	4,8	7,0	9,6	7,0	9,4	5,8	9,0
3b	2,6	7,4	6,1	7,8	6,0	13,0	3,5	2,9
N=	34819	23017	10250	13161	10284	10704	2804	2859

Table 4:

Distribution of Class position and labour force participation in France, Germany, the UK and Hungary by time period, gender and age group

EGP	D		F		UK		HUN	
	1982	1993	1984	1994	1984	1994	1983	1992
A Men 25-34								
I	14.0	14.2	9.0	11.1	15.2	16.7	7.2	7.6
II	12.3	10.6	11.3	8.7	15.6	15.6	6.3	6.2
IIIa	10.8	9.4	10.0	8.3	5.2	8.9	3.3	3.3
IIIb	4.1	3.7	4.1	5.4	3.3	3.3	1.7	3.9
IVabc	6.4	6.1	10.4	8.8	11.7	12.8	0.5	9.5
V	8.2	9.1	8.9	9.5	11.9	12.1	4.7	2.7
VI	27.0	29.4	25.7	28.4	18.4	13.3	41.8	36.8
VIIab	17.1	17.6	20.7	19.9	18.6	17.3	34.4	30.1
N=	27931	22995	10556	10154	8787	9167	2966	1617
Labour Force Participation								
Employed	88.1	85.3	91.8	85.3	85.0	84.7	98.6	83.7
Unemployed	4.2	4.5	6.3	11.2	12.3	10.6	--	12.3
Not in Labour Force	7.7	10.2	1.9	3.4	2.7	4.7	1.4	4.0
N=	31640	26941	11527	11901	10359	10878	3009	1930
B Men 35-44								
I	17.8	20.3	17.4	16.0	19.8	23.9	10.9	9.4
II	12.2	14.2	12.2	11.2	14.6	15.5	9.1	7.2
IIIa	8.3	8.9	7.2	7.2	2.9	5.4	3.0	2.5
IIIb	3.3	2.9	2.9	3.4	2.7	2.3	1.1	1.3
IVabc	9.4	8.7	14.3	13.7	16.7	16.3	0.7	9.6
V	10.6	9.4	11.0	10.2	12.0	11.9	6.2	5.0
VI	21.0	21.6	20.3	23.5	14.2	10.8	32.4	36.0
VIIab	17.3	14.1	14.6	14.8	17.1	13.8	36.5	29.0
N=	32601	21566	9414	11215	8970	8665	2616	2189
Labour Force Participation								
Employed	94.7	93.5	94.3	89.7	88.2	85.8	97.4	82.7
Unemployed	3.2	4.1	3.8	7.5	8.9	7.9	--	11.5
Not in Labour Force	2.1	2.4	1.8	2.8	2.9	6.3	2.6	5.7
N=	34349	23056	9998	12513	10203	10158	2687	2650
C Women 25-34								
I	6.2	8.2	5.5	7.8	5.5	11.1	7.6	7.7
II	19.6	19.7	20.9	19.2	27.4	25.9	15.2	18.7
IIIa	26.3	31.8	38.8	33.0	23.6	25.4	22.1	21.8
IIIb	24.9	18.6	9.7	17.3	13.7	16.0	8.3	13.7
IVabc	6.6	4.0	6.6	4.6	6.0	4.2	1.6	5.1
V	1.8	2.3	1.0	1.4	2.4	2.7	2.2	1.6
VI	2.8	4.0	3.4	4.9	3.2	3.6	14.4	11.1
VIIab	11.8	11.3	14.0	11.9	18.2	11.1	28.6	20.4
N=	17246	17224	7916	8198	5577	7881	2457	1345
Labour Force Participation								
Employed	55.5	64.8	66.4	67.2	52.6	66.5	79.9	64.8
Unemployed	3.8	4.5	6.8	14.3	5.8	5.5	--	8.1
Not in Labour Force	40.7	30.6	26.8	18.5	41.6	28.0	20.1	27.1
N=	31030	26526	11969	12216	10616	11891	3074	2074

(continued)

(Table 4 continued)

D Women 35-44									
I	4.8	7.4	7.7	9.3	4.1	9.8	7.4	7.5	
II	12.3	19.1	21.4	19.6	22.4	25.5	14.6	16.7	
IIIa	19.5	27.4	31.1	32.0	20.7	21.7	17.4	22.2	
IIIb	29.1	21.2	8.2	12.6	14.1	16.8	5.8	10.6	
IVabc	12.3	7.5	13.2	8.3	6.8	7.1	3.3	5.3	
V	1.3	1.8	0.9	1.0	3.0	3.4	2.2	2.8	
VI	2.3	2.4	3.3	4.6	3.3	2.2	13.3	10.4	
VIIab	18.5	13.1	14.2	12.7	25.5	13.5	36.1	24.5	
N=	18005	15238	6614	9292	6569	7699	2483	2238	
Labour Force Participation									
Employed	51.7	66.1	64.7	70.6	64.0	72.2	88.6	78.4	
Unemployed	2.4	3.8	4.2	8.7	3.1	4.4	--	7.7	
Not in Labour Force	45.9	30.0	31.1	20.7	32.9	23.3	11.4	13.9	
N=	34788	23017	10250	13161	10284	10704	2803	2855	

Table 5:

Relative returns to education: Outflow ratios contrasting various levels of education

A Men, aged 25-34

Education contrasts	outflow ratio	D		F		UK		HUN	
		1993	1993 / 1982	1994	1994 / 1984	1994	1994 / 1984	1992	1992 / 1983
3b vs. 2c	Class I	5.55	1.406	7.68	1.15	2.76	1.05	10.36	1.34
	Class I + II	2.48	1,238	3.42	1.37	1.81	1.02	5.28	1.38
3a vs 2c	Class I	4.58	2,137	1.98	1.24	1.43	.77 1.3 ⁻¹	5.56	1.22
	Class I + II	2.32	1,204	1.93	1.18	1.25	.86 1.16 ⁻¹	4.38	1.4
3b vs. 3a	Class I	1.22	0.68 1.47 ⁻¹	3.88	0.93 1.08 ⁻¹	1.93	1.36	1.91	1.1
	Class I + II	1.07	1.03	1.77	1.16	1.44	1.19	1.2	.99

B Men, aged 35-44

Education contrasts	outflow ratio	D		F		UK		HUN	
		1993	1993 / 1982	1994	1994 / 1984	1994	1994 / 1984	1992	1992 / 1983
3b vs. 2c	Class I	3.17	1.17	3.43	1.38	2.11	1.09	5.8	1.45
	Class I + II	1.9	1.16	2.05	1.35	1.65	1.08	3.8	1.55
3a vs 2c	Class I	2.55	1.51	1.41	1.32	1.20	.84 1.19 ⁻¹	3.03	1.29
	Class I + II	1.78	1.14	1.54	1.27	1.16	.96 1.04 ⁻¹	2.67	1.36
3b vs. 3a	Class I	1.24	0.78 1.28 ⁻¹	2.43	1.05	1.77	1.30	1.95	1.12
	Class I + II	1.06	1.01	1.33	1.06	1.43	1.13	1.42	1.14

C Women, aged 25-34

Education contrasts	outflow ratio	D		F		UK		HUN	
		1993	1993 / 1982	1994	1994 / 1984	1994	1994 / 1984	1992	1992 / 1983
3b vs. 2c	Class I	8.74	.82 (1.22 ⁻¹)	22.9	1.75	3.10	1.19	8.97	1.59
	Class I + II	2.18	1.00	4.48	1.57	2.08	1.12	4	1.29
3a vs 2c	Class I	4.79	3.75	2.92	1.58	.63	2.56	2.05	1.36
	Class I + II	1.95	.85 (1.17 ⁻¹)	3.36	1.34	1.87	1.02	3.58	1.13
3b vs. 3a	Class I	1.83	0.22 4.54 ⁻¹	7.87	1.11	4.93	.46 2.16 ⁻¹	4.81	1.29
	Class I + II	1.12	4.71	1.33	1.17	1.11	1.09	1.12	1.13

D Women, aged 35-44

Education contrasts	outflow ratio	D		F		UK		HUN	
		1993	1993 / 1982	1994	1994 / 1984	1994	1994 / 1984	1992	1992 / 1983
3b vs. 2c	Class I	6.87	.82 (1.22 ⁻¹)	10.71	1.92	2.62	.79 1.26 ⁻¹	7.25	1.6
	Class I + II	2.25	.86 (1.17 ⁻¹)	2.67	1.66	2.08	.83 1.21 ⁻¹	3.6	1.37
3a vs 2c	Class I	2.26	3.42	1.95	1.21	.66	1.55	1.6	1.21
	Class I + II	2.18	.83 (1.21 ⁻¹)	2.33	1.59	1.79	.77 1.29 ⁻¹	3.17	1.35
3b vs. 3a	Class I	3.04	0.24 4.17 ⁻¹	5.49	1.59	3.97	.51 1.96 ⁻¹	4.54	1.33
	Class I + II	1.03	1.04	1.15	1.04	1.16	1.07	1.13	1.02

Table 6:

Unemployment rates in Germany, France, the UK and Hungary by education, gender, age group and time period

A Men. aged 25-34

Educ	unemployed	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
<u>Outflow%</u>									
1ab		12.1	15.5	10.3	21.2	23.3	23.8		28.6
1c		3.9	4.5	5.3	10.5	16.3	15.8		13.3
2b		7.5	9.4	5.9	11.2	7.3	9.6		-
2a		2.9	3.1	4.6	7.4	8.8	9.9		-
2c gen		5.2	5.0	6.0	12.1	6.6	6.2		6.8
2c voc		4.5	5.1	2.5	7.7	3.2	6.3		8.5
3a		2.4	4.3	3.8	7.5	3.6	3.9		3.2
3b		3.8	3.7	2.8	7.6	3.6	4		4.6

B Men. aged 35-44

Educ	unemployed	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
<u>Outflow%</u>									
1ab		6.9	12.0	6.1	12.9	16.4	18.8		25.5
1c		3.0	4.4	3.9	7.4	9.5	10.8		12.9
2b		1.5	4.0	2.6	6.4	5.8	6.4		-
2a		2.4	3.0	2.1	4.3	5.1	6.5		-
2c gen		6.1	8.5	2.1	6.0	3.7	6.5		6.4
2c voc		3.5	4.1	1.2	6.1	3.2	5.9		6.5
3a		1.0	1.5	1.9	4.7	2	5.2		7.4
3b		1.6	2.3	1.4	3.6	1.7	2.7		5.2

C Women. aged 25-34

Educ	unemployed	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
<u>Outflow%</u>									
1ab		10.6	15.2	14.3	30.6	14.6	15.3		19.5
1c		6.2	8.0	10.2	22.1	11.8	11.3		13.8
2b		4.8	10.2	9.9	19.4	8.3	7.8		-
2a		4.8	4.1	6.6	15.0	7.8	5.2		-
2c gen		9.0	5.8	8.5	14.3	6.8	4.6		7.7
2c voc		7.9	4.6	5.6	15.6	10.9	4.1		7.2
3a		3.7	4.7	3.4	8.8	4	3.2		5.3
3b		8.1	6.3	5.2	8.8	4.8	4.3		1.4

D Women. aged 35-44

Educ	unemployed	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
<u>Outflow%</u>									
1ab		5.9	9.6	8.3	17.8	6	9.2		13.4
1c		4.4	5.5	7.5	11.1	3.4	7.4		9.5
2b		3.4	4.6	4.7	11.1	3	4.8		-
2a		3.1	3.5	4.2	8	3.2	6.5		-
2c gen		4.5	8.3	4.8	8.1	3.7	4.7		8.8
2c voc		4.0	4.8	2.2	6.9	6.1	2.5		5.9
3a		1.5	3.2	1.7	5.9	3.9	2.6		3.3
3b		5.1	5.8	1.9	4.2	2.1	2.6		1.3

Table 7:**Relative returns to education: Odds ratios of access to qualified vs. unqualified positions contrasting vocational and general qualifications****A Men, aged 25-34**

Education contrasts	qualif vs. non-qualif	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
1c vs. 1ab		5.58	5.66	2.45	2.38	2.74	1.41	5.64	6.86
2a vs. 2b		2.12	2.49	2.07	1.59	1.34	2.13	-	-
2c voc vs. 2c gen		2.73	3.44	1.34	1/1.26	1/1.25	1.01	1.49	1/1.41

B Women, aged 25-34

Education contrasts	qualif vs. non-qualif	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
1c vs. 1ab		2.57	3.53	3.47	1.80	2.32	2.42	2.68	1.59
2a vs. 2b		2.26	2.41	2.21	1.31	1/1.15	1.55	-	-
2c voc vs. 2c gen		2.81	4.94	1.85	1/1.01	1.34	1/1.21	1.14	1/1.19

C Men, aged 35-44

Education contrasts	qualif vs. non-qualif	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
1c vs. 1ab		5.36	5.27	2.82	2.77	2.91	1.36	4.43	3.52
2a vs. 2b		1.95	2.91	2.08	2.35	1/1.13	1.33	-	-
2c voc vs. 2c gen		1/1.04	3.23	1.13	1.42	1/1.76	1/1.45	1/1.09	1.11

D Women, aged 35-44

Education contrasts	qualif vs. non-qualif	D		F		UK		HUN	
		1982	1993	1984	1994	1984	1994	1983	1992
1c vs. 1ab		1.90	2.80	2.88	2.49	3.30	2.16	3.41	2.94
2a vs. 2b		1.73	2.15	2.25	1.81	1/1.21	1/1.28	-	-
2c voc vs. 2c gen		1.57	4.27	4.34	1.05	1/1.19	1.09	1.00	1.39

Figure 1a:

Absolute returns to education: Outflow percentages into the Service Classes by educational attainment for men

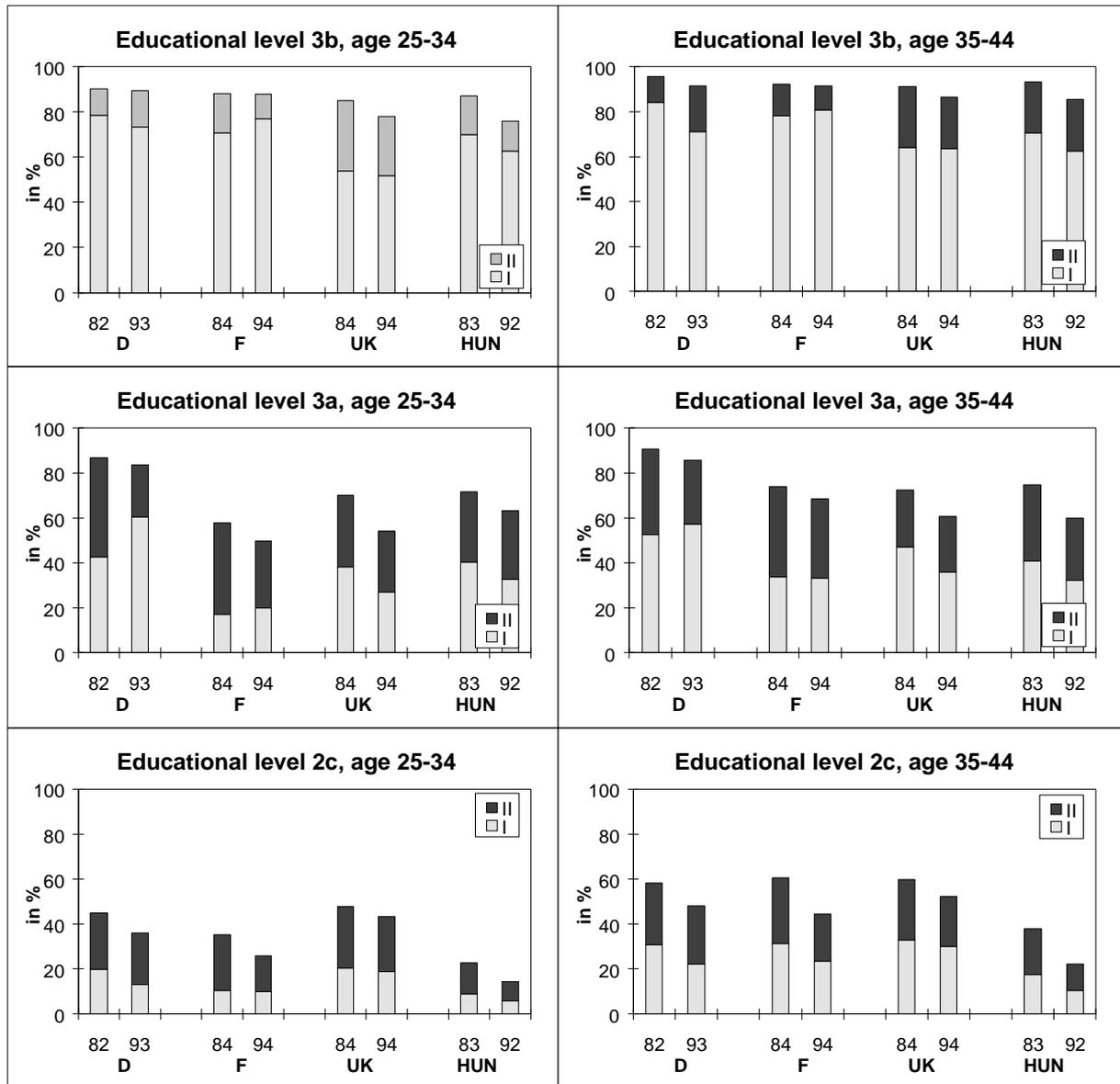


Figure 1b:

Absolute returns to education: Outflow percentages into the Service Classes by educational attainment for women

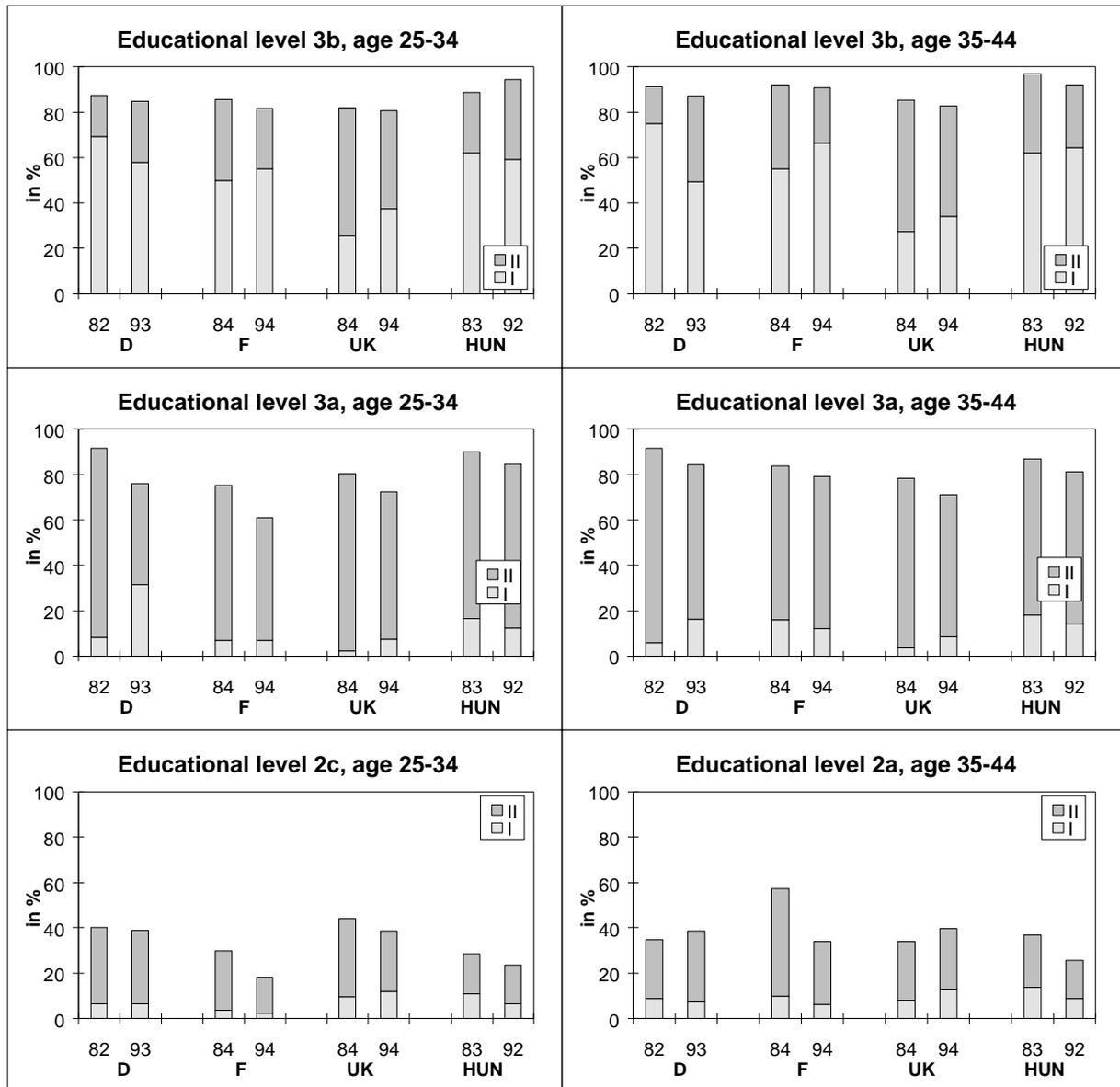
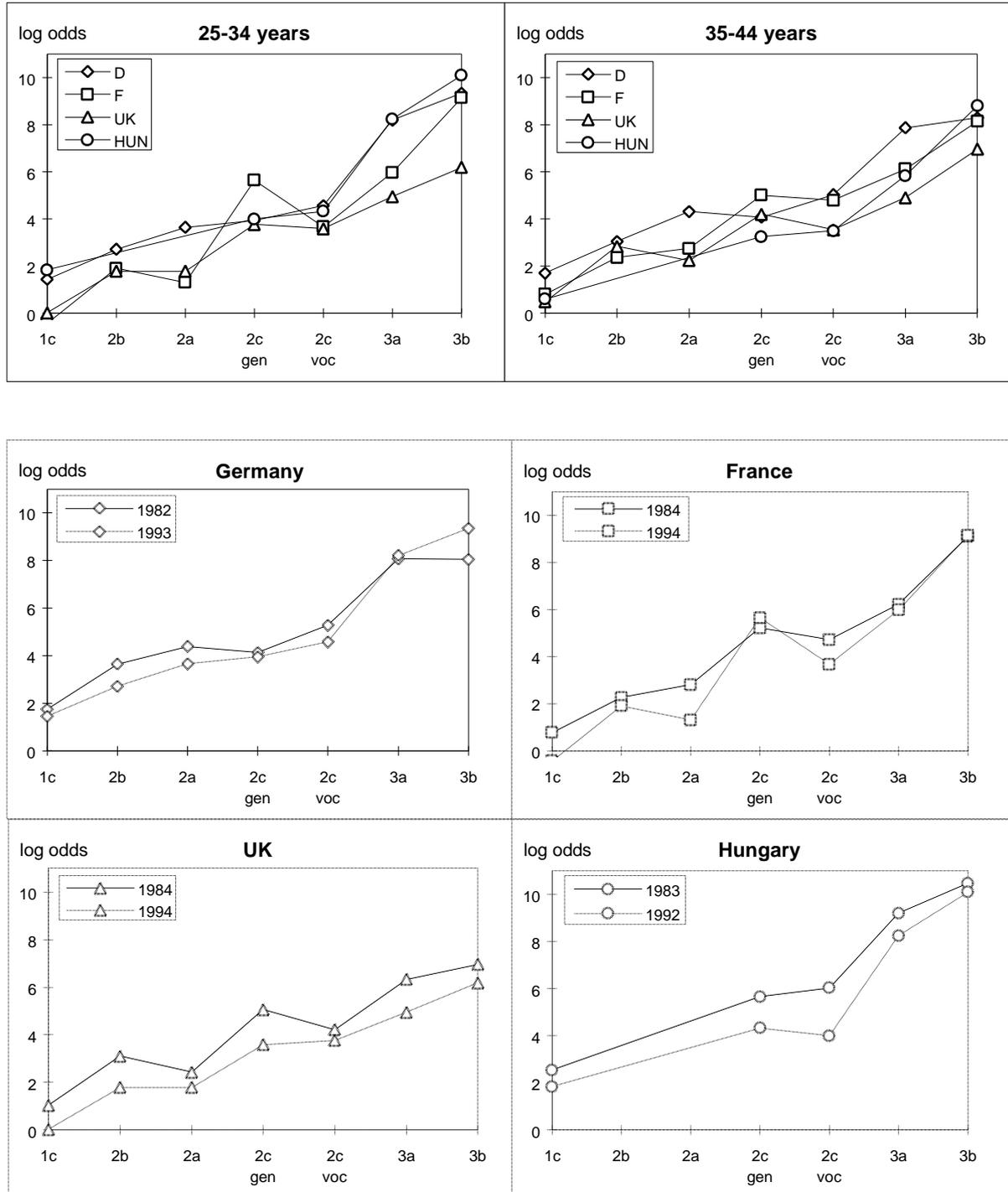


Figure 2a:

Effects of education on access to Class I vs. VIIab; Comparison between countries and time periods (parameters of multinomial regression models¹ for men)²

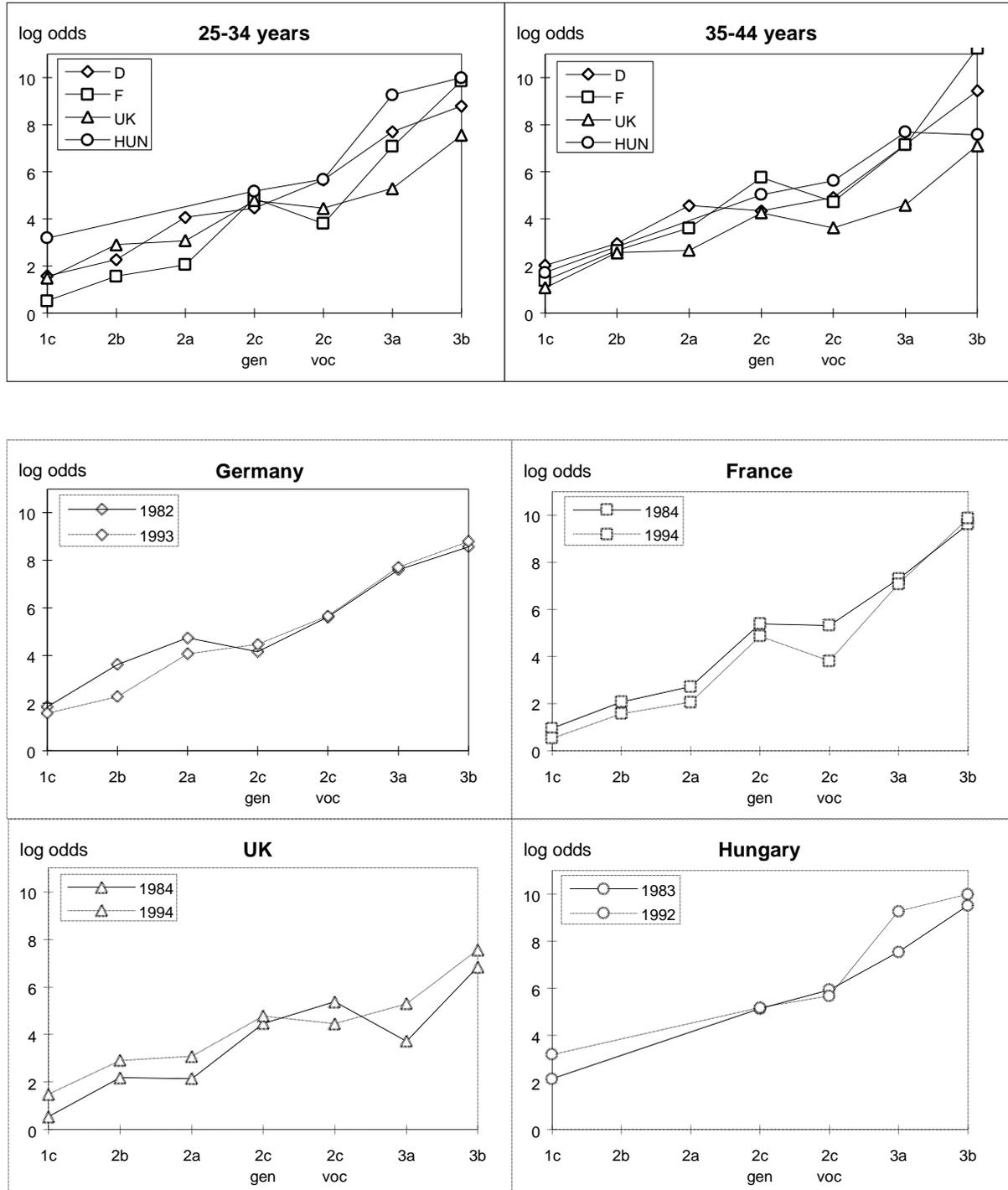


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure 2b:

Effects of education on access to Class I vs. VIIab; Comparison between countries and time periods (parameters of multinomial regression models¹ for women)²



¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure 3a:

Absolute returns to education: Outflow percentages into qualified work positions by educational level for men and women aged 25-34

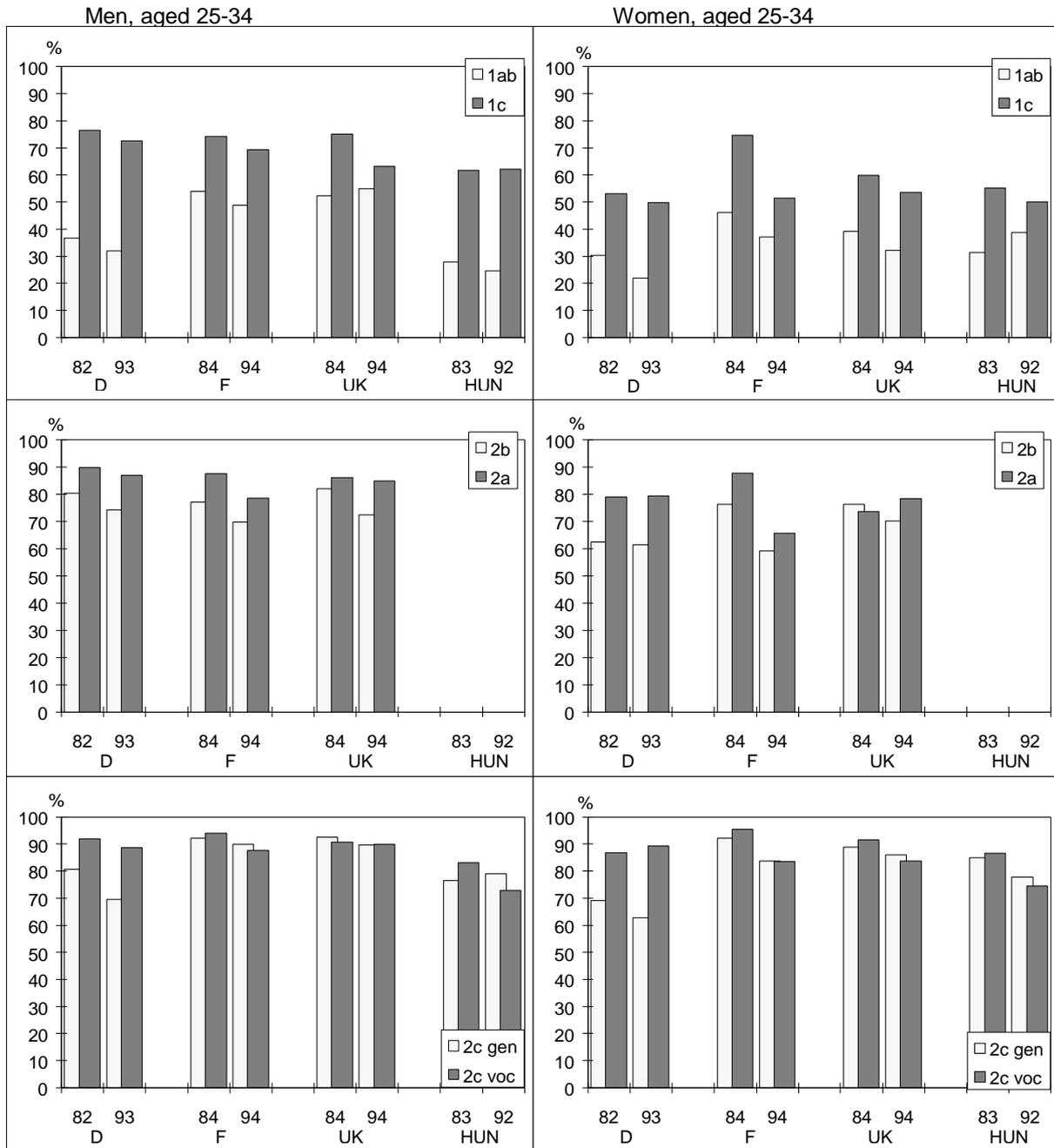


Figure 3b:

Absolute returns to education: Outflow percentages into qualified work positions by educational level for men and women aged 35-44

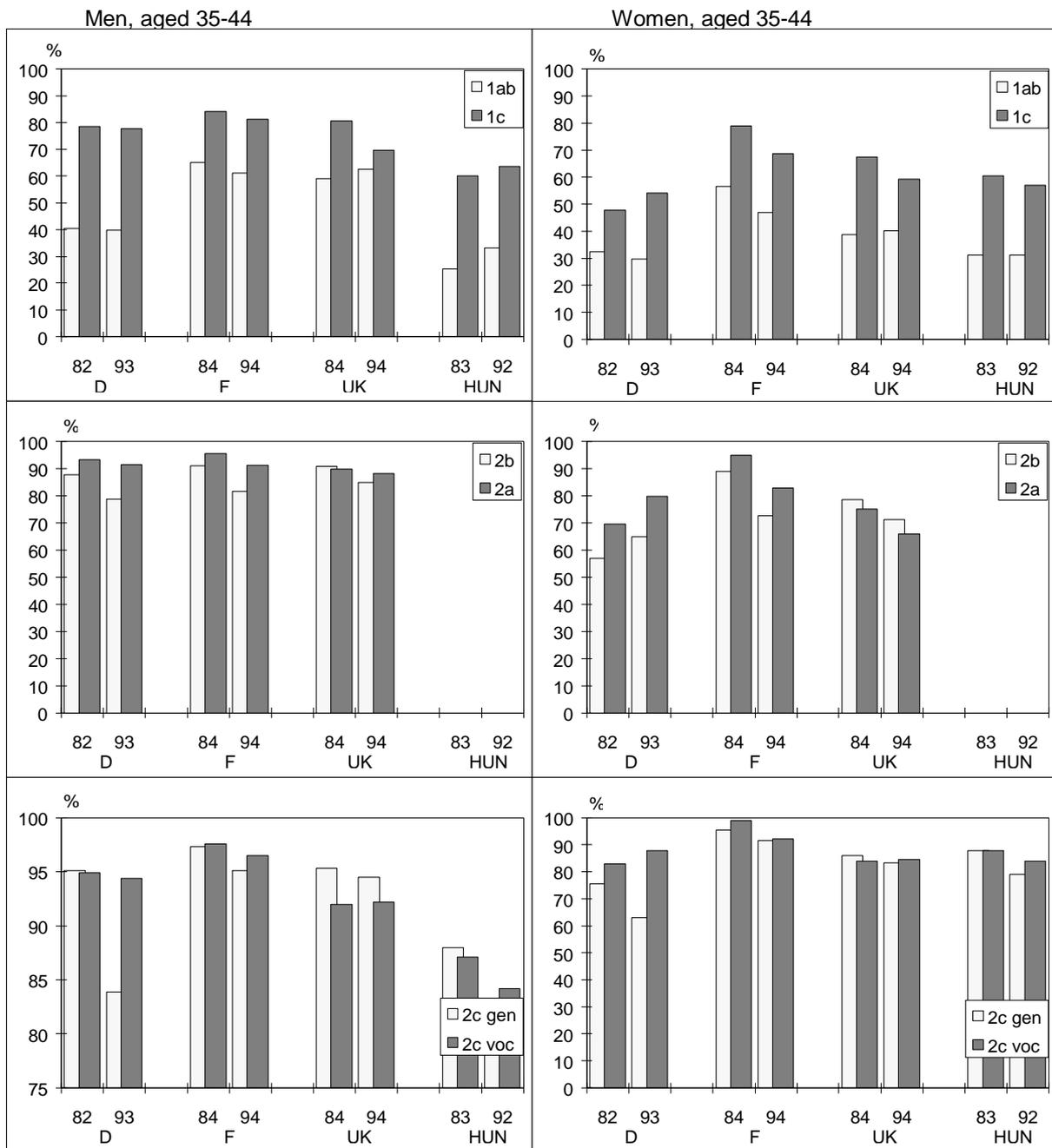
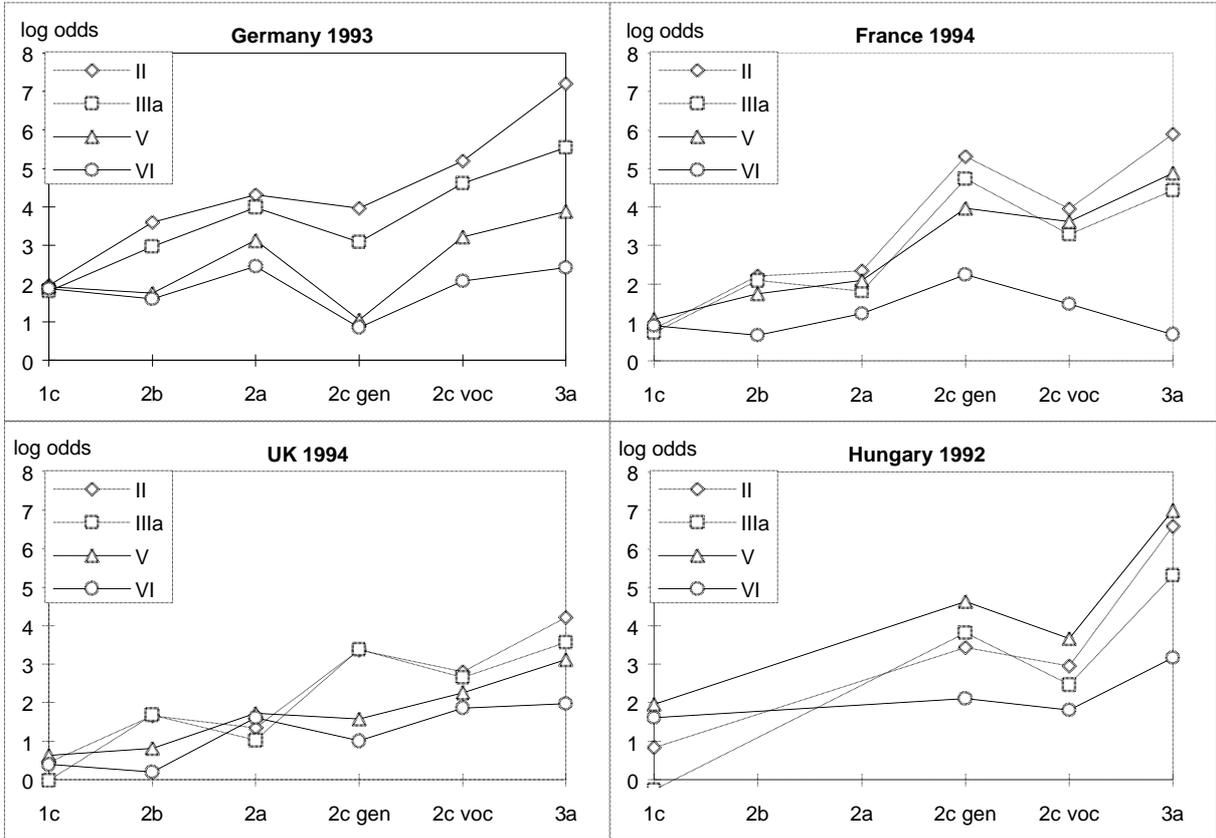


Figure 4a:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab (parameters of multinomial regressions¹ for men aged 25-34)²

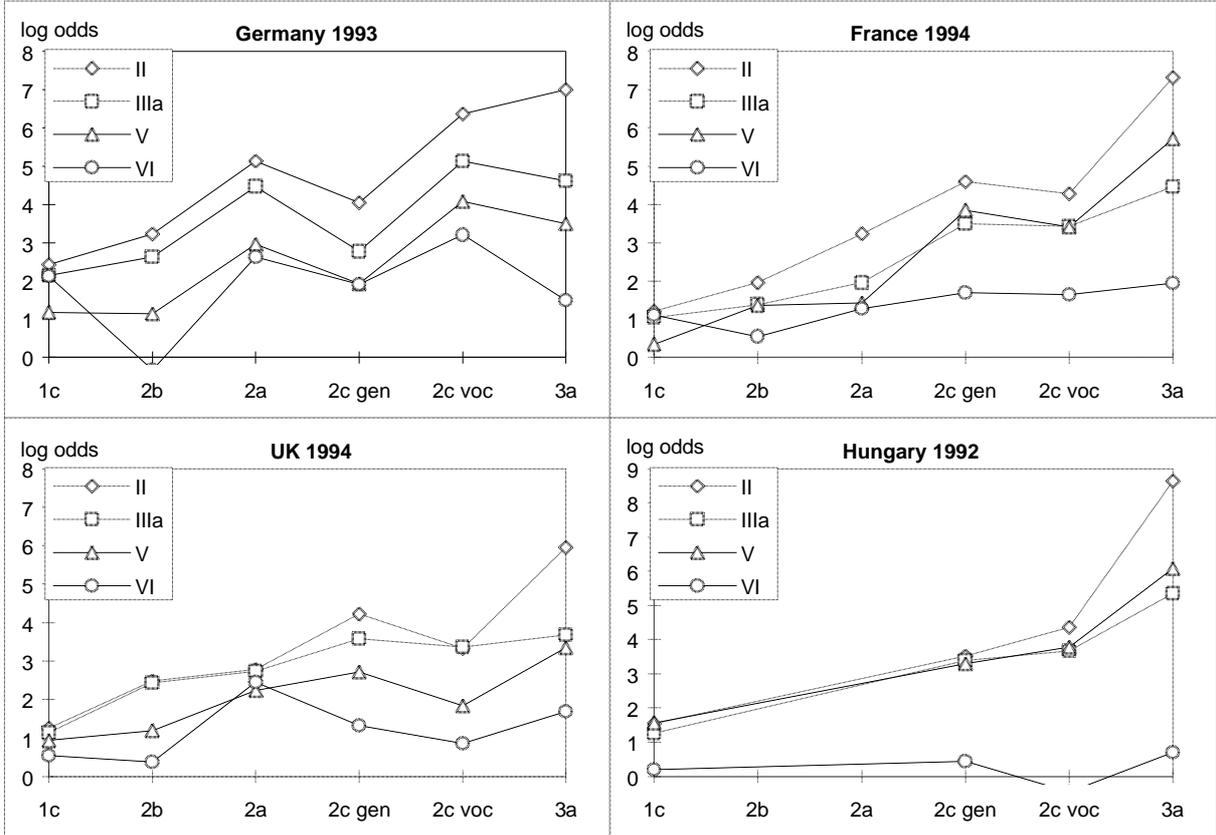


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure 4b:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab (parameters of multinomial regressions¹ for women aged 25-34)²

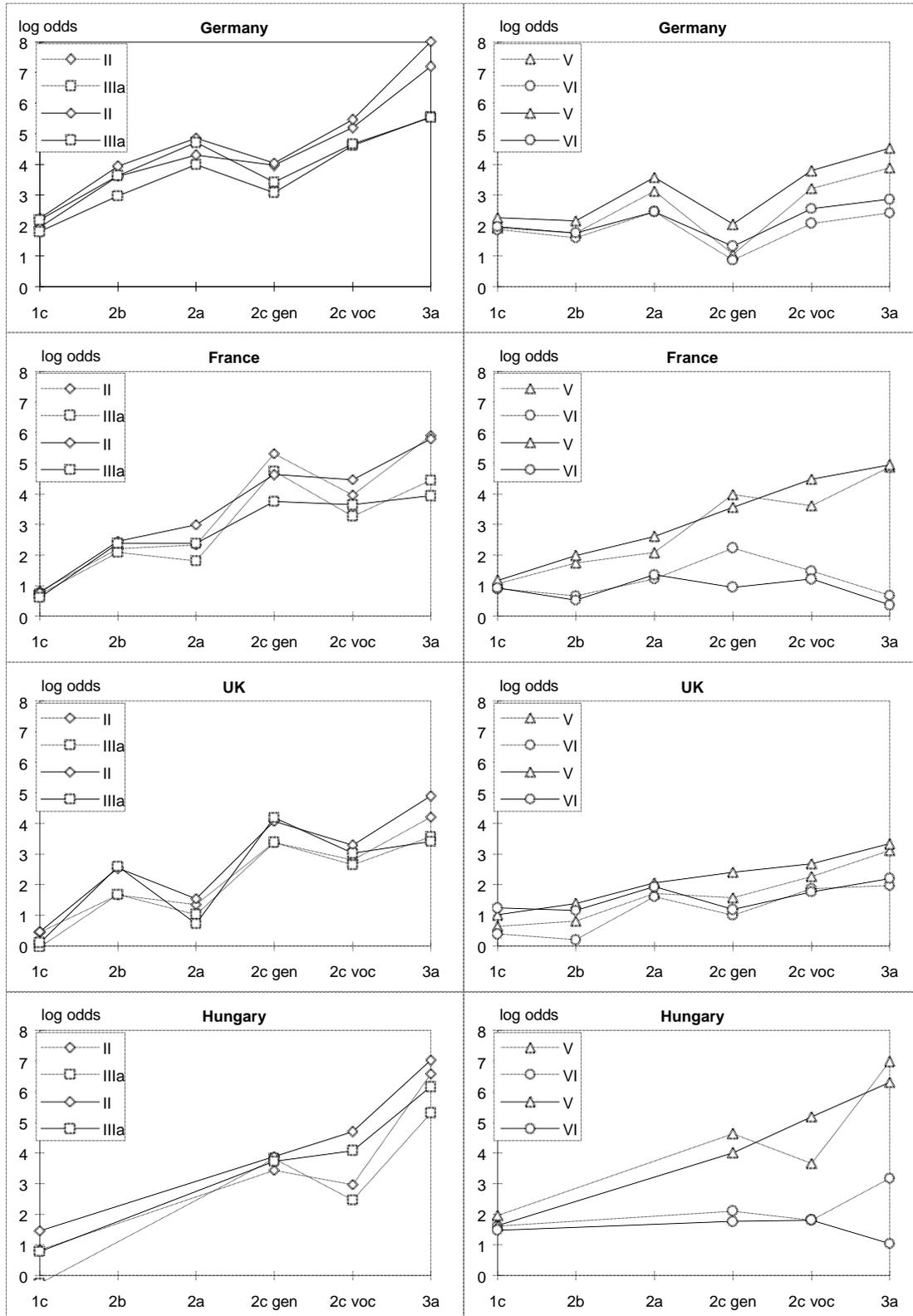


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure 5a:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab: Comparison between time periods (parameters of multinomial regressions¹ for men aged 25-34)²

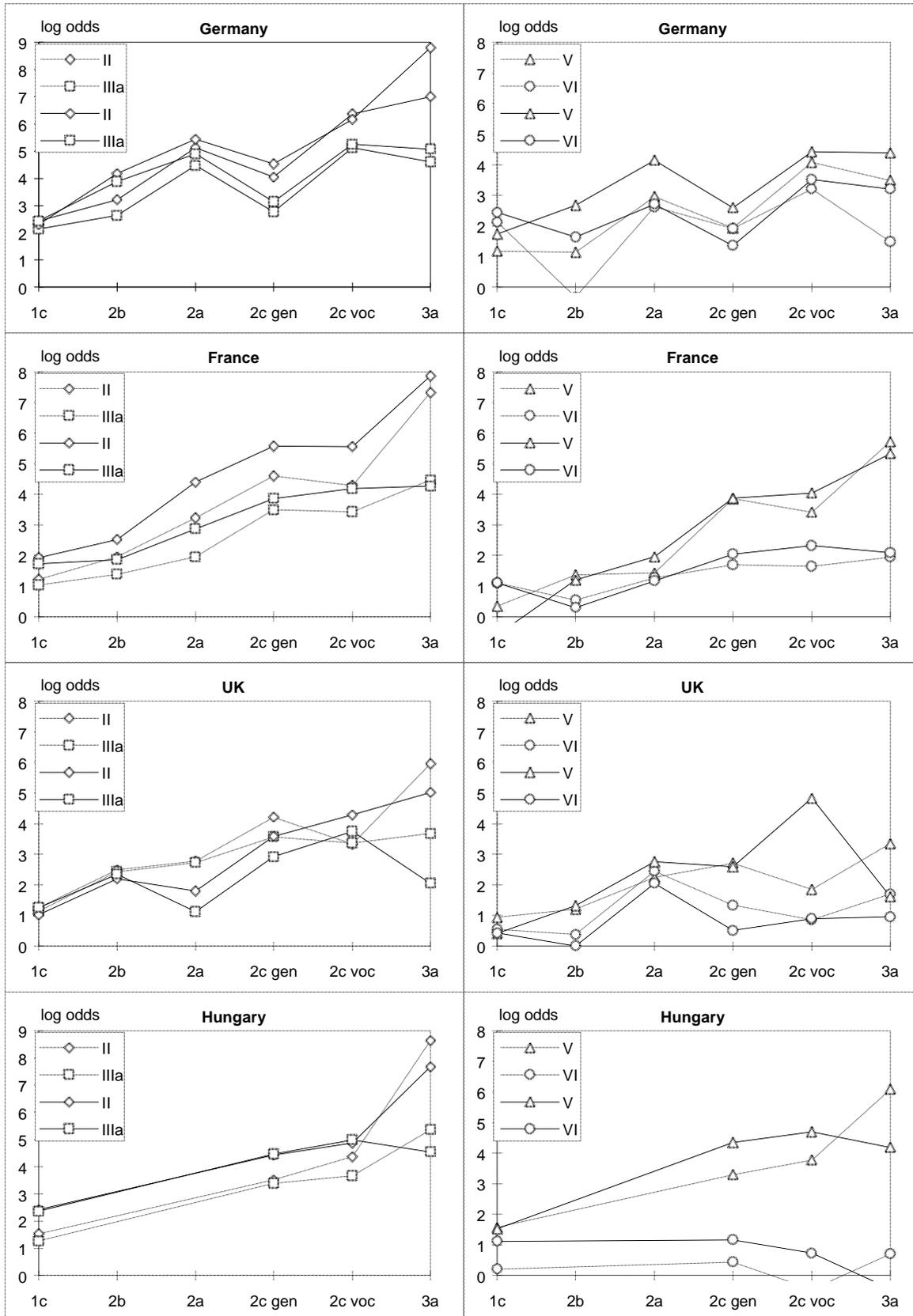


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure 5b:

Effects of education on access to Classes II, IIIa, V, VI vs. VIlab: Comparison between time periods (parameters of multinomial regressions¹ for women aged 25-34)²



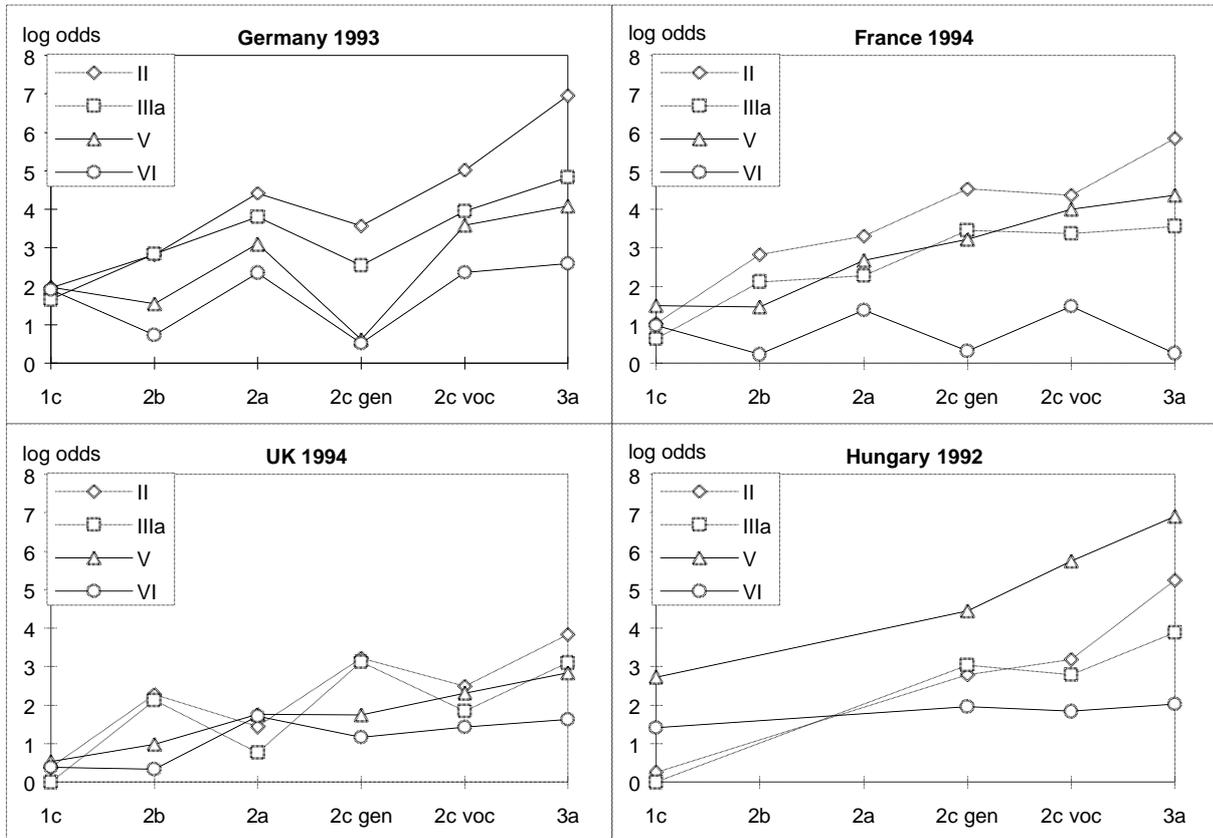
¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure A 1a:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab (parameters of multinomial

regressions¹ for men aged 35-44)²

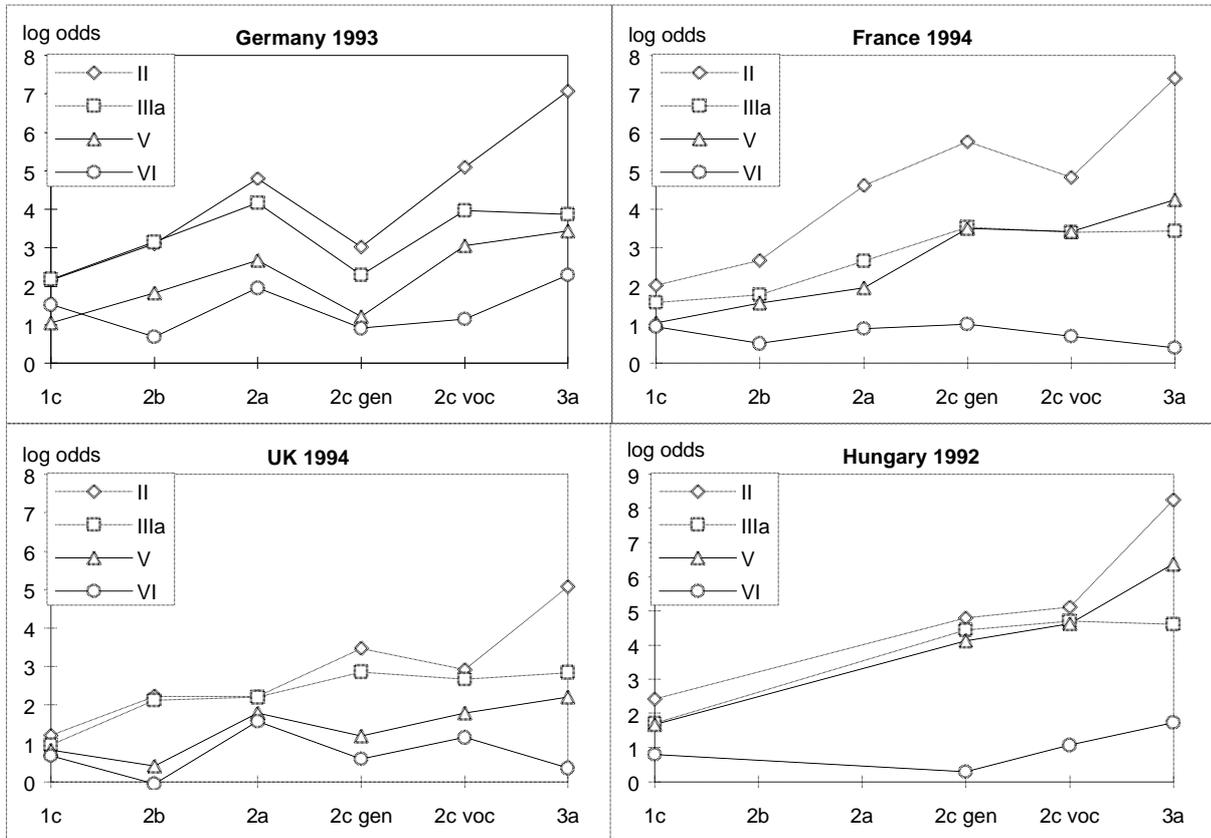


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure A 1b:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab (parameters of multinomial regressions¹ for women aged 35-44)²

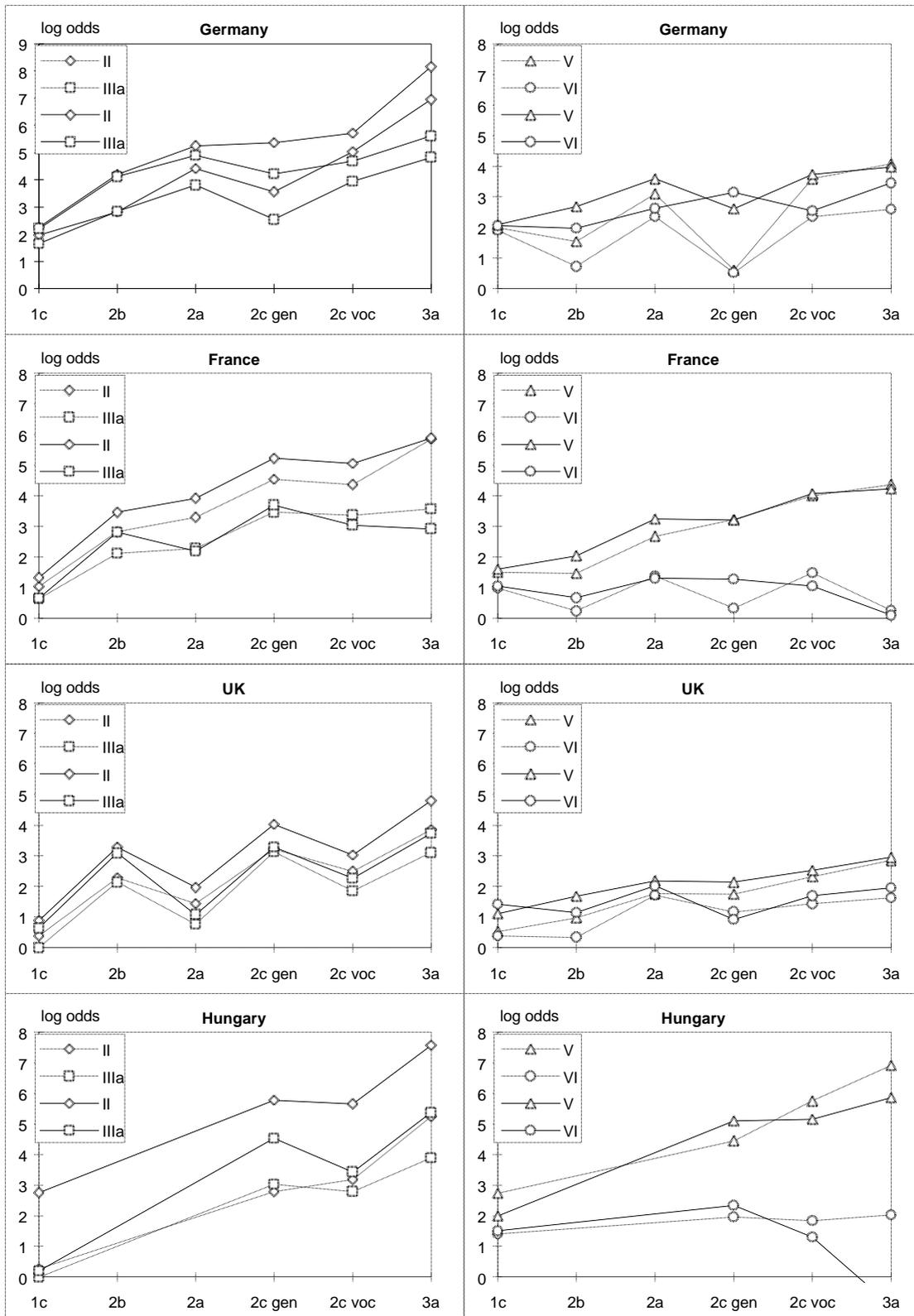


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure A 2a:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab: Comparison between time periods (parameters of multinomial regressions¹ for men aged 35-44)²

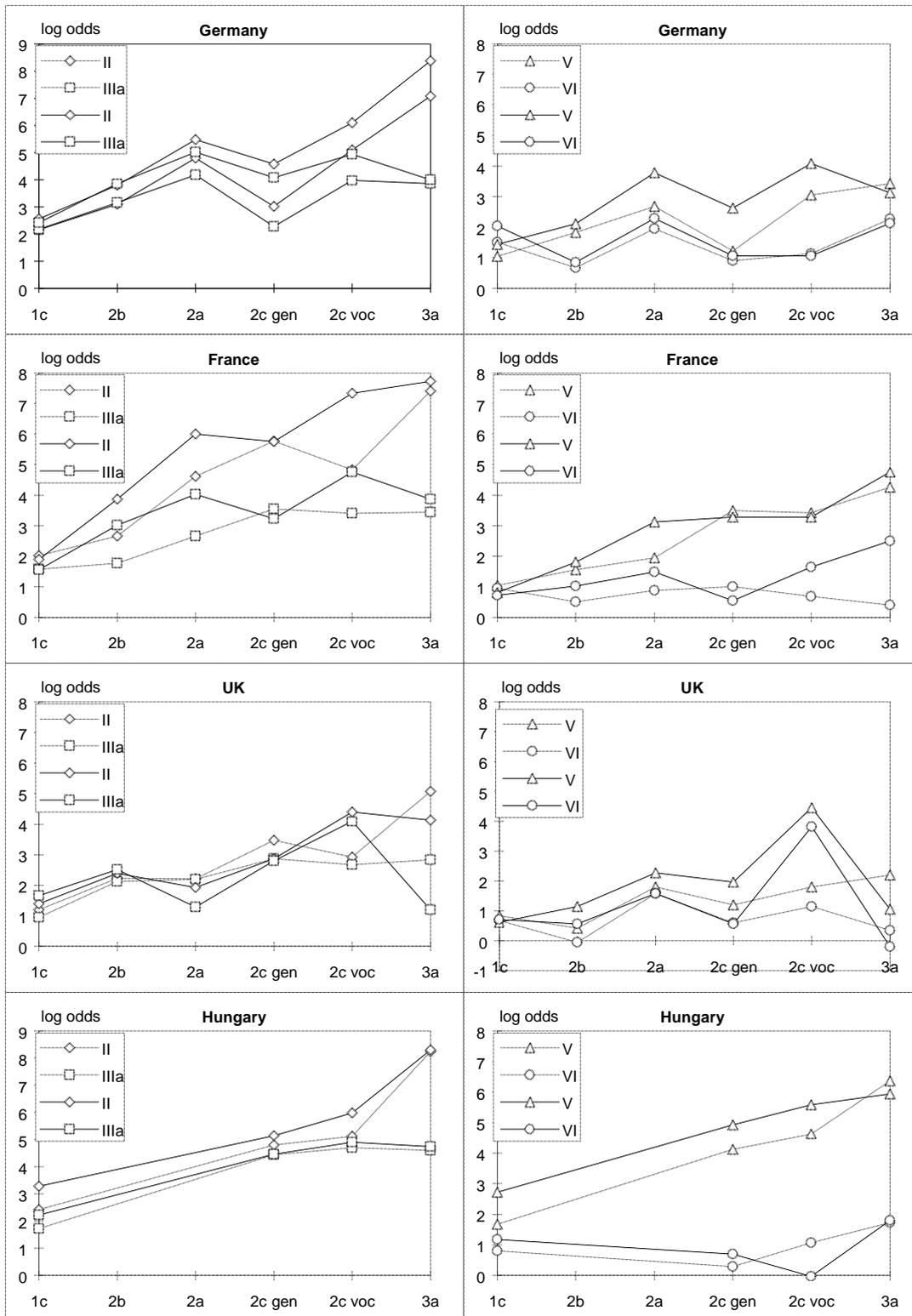


¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Figure A 2b:

Effects of education on access to Classes II, IIIa, V, VI vs. VIIab: Comparison between time periods (parameters of multinomial regressions¹ for women aged 35-44)²



¹ education effects are contrasted to education 1ab

² the dotted line represents the data for the 80s, the solid line the data for the 90s

Table A1 Relative Returns to Education: Access to Classes I, II, IIIc, IIIb, IVabc, V, VI contrasted to VIIab (Multino)

Table A1-1

Germany 1993								Germany 1982		
Men aged 25-34 N=22995								Men aged 25-34 N=27783		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	1.45	1.95	1.80	0.89	1.43	1.93	1.87	1.74	2.24	2.18
2b	2.71	3.61	2.97	1.77	1.42	1.75	1.60	3.65	3.94	3.63
2a	3.65	4.31	3.99	2.10	2.48	3.12	2.45	4.39	4.85	4.71
2c gen	3.94	3.97	3.08	2.80	2.29	1.06	0.87	4.12	4.03	3.42
2c voc	4.57	5.20	4.62	2.61	2.57	3.21	2.07	5.27	5.47	4.66
3a	8.21	7.20	5.55	3.05	3.68	3.89	2.42	8.07	8.01	5.53
3b	9.35	7.79	5.70	3.87	4.40	4.55	3.30	8.04	6.04	4.26
intercept	-3.89	-3.84	-3.36	-2.83	-2.67	-2.76	-1.24	-3.49	-3.40	-3.01
Men aged 35-44 N=21566								Men aged 35-44 N=32667		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	1.70	1.96	1.65	1.10	1.22	1.98	1.91	1.57	2.26	2.20
2b	3.05	2.82	2.84	1.70	1.72	1.54	0.72 ~	4.50	4.20	4.11
2a	4.32	4.41	3.80	2.39	2.69	3.10	2.35	4.91	5.26	4.90
2c gen	4.08	3.57	2.54	1.90	2.27	0.61 ~	0.52 ~	5.30	5.36	4.22
2c voc	5.03	5.02	3.95	2.36	3.09	3.58	2.35	5.40	5.72	4.68
3a	7.87	6.95	4.83	3.00	3.60	4.08	2.59	8.07	8.16	5.60
3b	8.30	6.82	4.13	3.05	3.98	3.46	1.90	10.32	8.72	6.27
intercept	-3.17	-2.94	-2.54	-2.74	-1.88	-2.36	-1.25	-2.66	-3.06	-2.94
Women aged 25-34 N=17224								Women aged 25-34 N=17153		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	1.58	2.43	2.14	1.43	1.15	1.18	2.13	1.85	2.30	2.43
2b	2.27	3.22	2.63	1.07	0.76	1.14	-0.34 ~	3.62	4.18	3.88
2a	4.07	5.13	4.47	2.48	2.28	2.96	2.62	4.73	5.43	4.90
2c gen	4.47	4.04	2.77	1.98	1.55	1.93	1.91	4.17	4.53	3.13
2c voc	5.65	6.37	5.12	2.63	2.73	4.08	3.20	5.61	6.17	5.25
3a	7.70	7.01	4.61	2.02	2.81	3.49	1.49	7.60	8.80	5.07
3b	8.79	7.01	4.50	1.94	3.23	4.18	1.93	8.57	6.12	4.03
intercept	-0.01 ~	1.10	1.39	0.81	-0.44	-0.93	-1.20	0.78	2.05	2.00
Women aged 35-44 N=15238								Women aged 35-44 N=17965		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	2.04	2.16	2.18	1.37	0.91	1.04	1.51	2.11	2.54	2.41
2b	2.95	3.10	3.15	1.89	1.45	1.83	0.67 ~	3.62	3.80	3.85
2a	4.57	4.80	4.17	2.39	2.14	2.67	1.95	4.86	5.47	5.01
2c gen	4.34	3.02	2.29	1.56	1.54	1.21 ~	0.90 ~	5.00	4.58	4.08
2c voc	4.90	5.09	3.97	1.67	2.04	3.06	1.14	5.51	6.10	4.94
3a	7.17	7.08	3.87	1.43	2.57	3.44	2.28	6.43	8.37	3.99
3b	9.45	7.65	4.81	2.70	3.77	3.86	2.79	8.97	6.73	4.25
intercept	0.20 ~	1.41	1.54	0.98	0.38	-0.96	-1.39	0.66	1.53	1.64

Table A1-2

France EE 94								EE 84			
Men aged 25-34 N= 10154								Men aged 25-34 N=10556			
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa	IIIb
1c	-0.43 ~	0.82	0.72	0.37 ~	1.15	1.07	0.91	0.77	0.78	0.61	0.61
2b	1.91	2.21	2.09	1.37	1.21	1.75	0.66	2.26	2.44	2.38	2.38
2a	1.30	2.34	1.80	0.87	1.65	2.08	1.22	2.81	2.99	2.39	2.39
2c gen	5.64	5.31	4.73	3.20	3.30	3.97	2.24	5.22	4.62	3.75	3.75
2c voc	3.67	3.95	3.28	1.86	2.56	3.62	1.48	4.72	4.46	3.64	3.64
3a	5.97	5.89	4.44	2.10	3.11	4.88	0.68 ~	6.21	5.80	3.94	3.94
3b	9.14	6.71	5.02	3.47	4.20	4.65	-0.07 ~	9.10	6.40	4.65	4.65
intercept	-3.67	-3.17	-2.43	-1.93	-1.97	-2.45	-0.34	-3.82	-2.51	-1.90	-1.90
<i>Men aged 35-44</i> N=11215								<i>Men aged 35-44</i> N=9414			
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa	IIIb
1c	0.81	1.03	0.63	0.27 ~	1.20	1.50	0.98	0.92	1.33	0.64	0.64
2b	2.37	2.82	2.11	1.20	1.07	1.46	0.22 ~	3.34	3.46	2.81	2.81
2a	2.74	3.29	2.28	0.84	1.98	2.67	1.37	3.67	3.92	2.19	2.19
2c gen	5.01	4.54	3.46	1.64	2.62	3.22	0.32	5.60	5.22	3.69	3.69
2c voc	4.79	4.37	3.37	1.11 ~	2.94	4.00	1.48	5.11	5.05	3.04	3.04
3a	6.12	5.84	3.56	1.40 ~	2.99	4.37	0.25 ~	5.88	5.89	2.91	2.91
3b	8.15	5.76	3.61	2.03	3.48	3.25	0.05 ~	8.25	6.38	3.40	3.40
intercept	-2.66	-2.32	-1.77	-1.80	-1.00	-1.74	-0.05 ~	-2.22	-2.05	-1.39	-1.39
<i>Women aged 25-34</i> N=8198								<i>Women aged 25-34J</i> N=7916			
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa	IIIb
1c	0.53	1.21	1.03	0.87	0.90	0.34 ~	1.10	0.94 ~	1.93	1.72	1.72
2b	1.56	1.95	1.38	0.81	1.28	1.36	0.54	2.07	2.52	1.86	1.86
2a	2.06	3.23	1.95	1.37	1.32	1.42	1.27	2.71	4.39	2.87	2.87
2c gen	4.86	4.59	3.49	1.96	2.41	3.85	1.70	5.38	5.57	3.86	3.86
2c voc	3.81	4.28	3.43	1.80	2.50	3.41	1.64	5.31	5.56	4.18	4.18
3a	7.08	7.32	4.46	2.24	3.21	5.71	1.94	7.30	7.87	4.26	4.26
3b	9.87	7.33	4.53	2.03	3.57	4.31	1.98	9.61	7.58	4.11	4.11
intercept	-0.89	0.94	1.95	0.96	-0.06 ~	-1.42	-0.37	-0.16 ~	1.80	2.53	2.53
<i>Women aged 35-44</i> N=9292								<i>Women aged 35-44</i> N=6614			
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa	IIIb
1c	1.39	2.03	1.58	1.11	1.27	1.05	0.95	1.70	1.90	1.56	1.56
2b	2.66	2.67	1.77	1.12	1.38	1.57	0.50	3.21	3.87	3.01	3.01
2a	3.61	4.62	2.66	1.80	2.09	1.96	0.89	4.88	6.00	4.03	4.03
2c gen	5.76	5.77	3.54	2.08	2.93	3.50	1.01	5.52	5.76	3.23	3.23
2c voc	4.73	4.83	3.40	1.40	2.40	3.43	0.69 ~	7.15	7.33	4.75	4.75
3a	7.15	7.40	3.44	1.26	3.00	4.26	0.39 ~	7.62	7.72	3.87	3.87
3b	11.24	8.80	4.93	3.30	4.94	5.78	1.35 ~	8.76	7.02	2.99	2.99
intercept	0.38 ~	1.78	2.35	0.90	0.95	-0.91	-0.62	1.34	2.78	2.77	2.77

~ not significant at a level of 5%

Table A1-3

UK LFS 1994								1984		
<i>Men aged 25-34</i> N=9167								<i>Men aged 25-34</i> N=8787		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	0.02 ~	0.45	-0.03 ~	-0.22 ~	0.09 ~	0.63	0.39	1.03	0.46	0.11 ~
2b	1.79	1.66	1.68	0.63	0.28	0.81	0.20 ~	3.10	2.54	2.60
2a	1.79	1.35	1.02	-0.16 ~	1.34	1.72	1.61	2.43	1.54	0.72
2c gen	3.77	3.37	3.38	1.37	0.96	1.57	1.00	5.06	4.07	4.19
2c voc	3.59	2.81	2.65	0.98	0.82	2.26	1.86	4.22	3.29	3.02
3a	4.95	4.21	3.57	1.55	1.63	3.12	1.97	6.33	4.89	3.41
3b	6.19	4.76	4.20	1.73	1.45	2.15	0.86	6.96	5.15	4.15
intercept	-2.71	-1.96	-2.25	-1.96	-0.82	-1.40	-0.95	-3.27	-2.00	-2.72
<i>Men aged 35-44</i> N=8665								<i>Men aged 35-44</i> N=8970		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	0.49	0.39	-0.01 ~	-0.21 ~	0.05 ~	0.53	0.38	1.40	0.88	0.63
2b	2.84	2.27	2.13	0.93	0.51 ~	0.97	0.34 ~	3.99	3.28	3.08
2a	2.24	1.43	0.76	0.14 ~	1.14	1.75	1.71	2.75	1.96	1.08
2c gen	4.20	3.21	3.12	0.47 ~	1.23	1.74	1.17	4.92	4.02	3.28
2c voc	3.54	2.49	1.84	0.03 ~	0.74	2.32	1.43	4.07	3.03	2.26
3a	4.91	3.84	3.10	1.44	1.58	2.84	1.63	6.16	4.80	3.73
3b	6.97	5.26	4.11	2.24	2.37	2.68	0.94	7.99	6.41	4.50
intercept	-2.25	-1.55	-2.08	-1.98	-0.29	-1.11	-0.94	-2.44	-1.72	-2.70
<i>Women aged 25-34</i> N=7881								<i>Women aged 25-34</i> N=5577		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	1.49	1.26	1.13	0.22 ~	0.44 ~	0.93	0.55	0.54 ~	1.02	1.26
2b	2.91	2.49	2.43	0.89	1.48	1.20	0.37 ~	2.18	2.20	2.34
2a	3.08	2.78	2.73	0.95	1.86	2.24	2.45	2.15	1.80	1.13
2c gen	4.78	4.22	3.57	1.48	2.58	2.71	1.33	4.47	3.59	2.92
2c voc	4.46	3.33	3.37	1.17	2.50	1.84	0.85 ~	5.38	4.28	3.75
3a	5.29	5.96	3.68	1.88	2.75	3.34	1.69	3.72	5.02	2.05
3b	7.55	6.22	4.19	1.53	3.35	3.24	2.03	6.84	5.48	3.21
intercept	0.31	1.37	1.53	0.85	-0.21	-0.64	-0.63	-0.48	1.43	1.21
<i>Women aged 35-44</i> N=7699								<i>Women aged 35-44</i> N=6569		
	I	II	IIIa	IIIb	IVabc	V	VI	I	II	IIIa
1c	1.07	1.20	0.95	0.27	0.48	0.83	0.68	1.51	1.40	1.65
2b	2.57	2.23	2.13	0.93	1.20	0.41 ~	-0.06 ~	3.31	2.38	2.53
2a	2.67	2.22	2.19	0.99	1.78	1.79	1.57	2.88	1.92	1.29
2c gen	4.26	3.47	2.86	1.42	2.41	1.19	0.59 ~	4.22	2.86	2.80
2c voc	3.62	2.92	2.67	0.83 ~	1.81	1.79	1.15 ~	5.53	4.41	4.09
3a	4.59	5.08	2.84	1.48	2.51	2.20	0.35 ~	3.56	4.13	1.19
3b	7.11	5.98	3.54	1.54	3.54	3.00	1.15 ~	7.28	5.58	2.98
intercept	0.27	1.41	1.38	0.76	0.28	-0.56	-1.43	-0.40 ~	1.35	1.00

~ not significant at a level of 5%

Table A1-4

HU 1992								1983	
<i>Men</i> aged 25-34 N= 1617								<i>Men</i> aged 25-34 N= 2966	
	I	II	IIIa	IIIb	IVabc	V	VI	I	II
1c	1.84 ~	0.83 ~	-0.26 ~	0.32 ~	1.84	1.96 ~	1.61	2.55 ~	1.46
2c gen	4.00	3.43	3.82	1.70	2.64	4.63	2.11	5.65	3.87
2c voc	4.33	2.96	2.47	1.52	2.69	3.67	1.81	6.03	4.70
3a	8.25	6.58	5.31	1.06 ~	4.04	6.99	3.17	9.20	7.03
3b	10.10	6.99	6.05	3.73	5.78	8.15	2.36 ~	10.48	7.17
intercept	-0.71 ~	-0.41 ~	-0.98	-1.26	-0.26 ~	-1.23	0.56 ~	-0.83	-0.52
<i>Men</i> aged 35-44 N= 2189								<i>Men</i> aged 35-44 N= 2616	
	I	II	IIIa	IIIb	IVabc	V	VI	I	II
1c	0.60 ~	0.26 ~	-0.01 ~	0.60 ~	1.06	2.73 ~	1.41	2.15	2.76
2c gen	3.25	2.80	3.03	1.76	2.26	4.45	1.96	5.13	5.77
2c voc	3.50	3.19	2.80	1.53	1.79	5.75	1.84	6.32	5.66
3a	5.84	5.24	3.89	2.28	2.99	6.92	2.03	8.27	7.57
3b	8.81	7.35	5.93	3.75 ~	4.44	8.22	3.48	10.02	8.36
intercept	-0.08 ~	-0.16 ~	-1.14	-2.09	-0.17 ~	-1.00	0.69	-0.29 ~	-0.07 ~
<i>Women</i> aged 25-34 N= 1345								<i>Women</i> aged 25-34 N= 2457	
	I	II	IIIa	IIIb	IVabc	V	VI	I	II
1c	3.20	1.54	1.27	1.73	2.25	1.57 ~	0.21 ~	2.16	2.42
2c gen	5.18	3.51	3.38	2.33	3.19	3.30	0.44 ~	5.14	4.42
2c voc	5.68	4.37	3.67	3.08	2.98	3.77	-0.45 ~	5.95	4.87
3a	9.27	8.64	5.36	4.36	4.99	6.09	0.70 ~	7.54	7.67
3b	10.00	7.11	3.47	1.98 ~	4.99	4.50	0.70 ~	9.52	7.34
intercept	-0.02 ~	1.00	0.98	0.26 ~	-0.33 ~	-1.29	-0.44 ~	0.10 ~	0.86
<i>Women</i> aged 35-44 N= 2238								<i>Women</i> aged 35-44 N= 2483	
	I	II	IIIa	IIIb	IVabc	V	VI	I	II
1c	1.73	2.42	1.72	1.43	1.44	1.67	0.80	3.51	3.28
2c gen	5.04	4.80	4.45	3.42	3.11	4.14	0.29 ~	6.82	5.15
2c voc	5.62	5.12	4.70	3.41	3.12	4.64	1.07	7.67	5.99
3a	7.70	8.24	4.61	3.83	4.56	6.38	1.73 ~	9.18	8.30
3b	7.58	5.75	1.76 ~	0.63 ~	3.16	2.75 ~	-0.37 ~	10.98	8.22
intercept	0.02 ~	0.79	0.60	-0.10 ~	-0.26 ~	-1.08	-0.63 ~	0.16 ~	1.16

~ not significant a