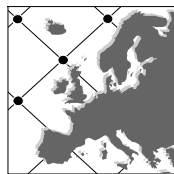


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**Does Education matter?**

**France and Germany in Comparative Perspective**

Hildegard Brauns, Susanne Steinmann,  
Annick Kieffer and Catherine Marry

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Editorial Note:

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**Abstract**

The paper builds on a French-German comparison on how individuals' education and their social class position are related to each other. Labour force surveys from the early 1970s and 1990s are used as the empirical basis. We analyze patterns of occupational stratification by education from three perspectives: change over time in each country, cross-national similarities and differences at the two historical periods, and gender-specific variation. Focussing on the historical perspective, our analyses reveal partly substantial changes in each nation's pattern of occupational stratification by education. From the cross-national perspective, we observe France and Germany as countries where relatively strong education effects prevail compared to other countries. Despite a slight trend of convergence in some aspects over time, the exact patterns of occupational stratification by education, however, vary. They are highly structured by institutional arrangements of the respective educational and employment settings. Due to gender-specific variation in the returns to education in the early 1970s, especially in Germany, we find the same pattern of cross-national dissimilarities in the link between education and social class position for women as for men only in the early 1990s.

## 1. Introduction\*

The link between individuals' educational achievement and their labour market outcomes has received a great deal of attention by sociologists, economists and policy makers. The critical role of formal schooling in determining occupational chances is well-established in the sociological and economic literature (Mincer 1974; Blau/Duncan 1967; Becker 1975; Spilerman/Lunde 1991). In the last two decades however, neoclassical economic as well as sociological stratification theory have largely been criticized for neglecting the impact of institutions (Kalleberg/Sørensen 1979; Baron/Bielby 1980; Erikson/Goldthorpe 1992). Many sociologists became interested in understanding how distinctive institutional arrangements of educational systems work, how they relate to the organisation of the employment system and to individuals' education returns. For this purpose, comparative labour market research which involves societies with differing and/or changing institutional contexts has proved to be highly important (see Kalleberg 1988, 1990; Shavit/Müller 1997; Mayer/Featherman/Selbee/Colbjørnsen 1989; Kerckhoff 1995; Allmendiger 1989).

This paper concentrates on a comparison between France and Germany. France and Germany share an advanced level of industrialization, a capitalist economic order and a democratic political system, but sharply differ in major characteristics of their educational systems and the organization of work in the employment system. A French-German comparison therefore allows some insight in how institutions shape the link between individuals' education and their labour market outcomes. Theoretical and empirical evidence on France and Germany in this respect is dominantly provided from organizational and industrial sociology. Most prominent became the 'societal effect' approach (Maurice/Sellier/Silvestre 1979, 1982), culturalist perspectives (Crozier 1971; Hofstede 1988) and models of labour market segmentation (Doeringer/Piore 1971; Marsden 1990; Sengenberger 1987; Lutz/Sengenberger 1974). Despite this evidence on substantial differences in the institutional embeddedness of labour market processes in France and Germany, there is a considerable research gap.

Most of the studies in industrial and organizational sociology draw on case-study material at the enterprise level. The focus is on recruitment patterns into selected occupational categories or in selected organizational units. Since educational prerequisites vary between occupa-

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tions and hierarchical positions, the link between educational credentials and occupational chances in the two countries should also be investigated in a more encompassing framework such that the whole range of occupational fields and positions is considered. Moreover, comparative research needs to establish in how far the findings receive support on broader empirical grounds, that is in being representative for France and Germany at large. Starting from that critique, a small number of empirical analyses have been conducted on the basis of representative samples of national labour forces for the early 1970s. Embedded in the macrosociological context of social mobility research, major concern of these studies has been to reveal the relationship between patterns of career mobility, class structure and institutional characteristics of national educational and labour market systems (König 1990; König/Müller 1986; Haller 1983; Haller/König/Krause/Kurz 1985; Müller/Karle 1993).

Nonetheless, the question of change over time in the link between individuals' education and labour market outcomes is essentially unexplored. While the research evidence on French-German differences seems abundant for the 1970 male labour force, it is not for present-day France and Germany. As the claimed differences between France and Germany are built on arguments referring to the institutional particularities prevalent in the 1970s, this research gap invokes an up-date of analyses with more recent data. Recent data will give the opportunity to investigate the effects of major changes that took place in both countries' educational systems and labour markets.

Finally, male-female differences in occupational attainment have rarely been investigated in a French-German comparison. Ignoring the female labour force reveals an essential shortcoming of previous research. Is it true that institutions work the same way for men and women? In how far need the so-called 'theory of societal effects' or other institutional approaches be revised or explicitly restricted in scope if investigation is extended to the labour force as a whole?

This paper builds on a French-German comparison on how individuals' education and occupational achievement, understood as social class position 5 to 10 years after school-leaving, are related to each other. Representative samples of national, male and female work forces from the early 1970s and 1990s will be used as the empirical basis. The paper aims at analyzing patterns of occupational stratification by education from three perspectives:

*Historical development:* First, we refer to the question of change and stability over time in national patterns of occupational stratification by education. Did more or less fundamental structural changes as well as quantitative moves in the respective educational systems and labour markets provoke changes in the returns to educational certification?

*Cross-national differences and similarities:* Second, we investigate the link between education and occupation from a cross-national perspective. Which are the most salient differ-

ences between the French and the German pattern of occupational stratification by education? Do we discover processes of convergence between 1970 and 1990 or persisting cross-national dissimilarities?

*Gender-specific variation:* Third, differences between the sexes in the allocative power of education will be considered. Is the pattern of association found in the respective countries the same for men and women, so that we can claim in fact a ‘societal effect’?

This paper will first outline the institutional framework in both countries. We will present relevant developments in the educational systems that took place between 1970 and 1990 and central findings of prior research on how education and work are related to each other in the two countries. Part 3 suggests hypotheses on possible changes in the returns to education in each country, their implications from a cross-national perspective and hypotheses on gender-differences. Data, variables and methodology will next be described. The empirical results are discussed in part 5. In the final section, we will present a critical summary of our findings and perspectives for future research.

## 2. The institutional framework

### THE EDUCATIONAL SYSTEMS

Between 1970 and 1990, France and Germany have experienced an enormous expansion of their educational systems reinforced by more or less fundamental institutional reforms.<sup>1</sup> In both countries, educational policies sought to increase equality of educational opportunity and to provide a work-force apt to challenges of modern industrial society. The educational reforms, however, followed different paths in the two countries (Brauns 1996b).

#### The French case

The French educational system has been completely reshaped.<sup>2</sup> Since the late 1970s lower secondary schooling (‘premier cycle’) is organized as a comprehensive ‘collège unique’ that is supposed to host all pupils until the age of 15. Due to a massive increase of educational participation and the concern for elaboration of technical education, upper secondary schooling (‘deuxième cycle’) has been institutionally diversified. On the one hand, it offers a three-year ‘long’ cycle, combining general and technological tracks in the ‘lycées générales’. The general track leads to a ‘Baccalauréat Général’, the technological track to a ‘Baccalauréat Technologique’ which has been introduced in late 60s. On the other hand, a ‘short’ cycle provides

<sup>1</sup> see table A1 in Appendix for the distribution of educational attainment across cohorts in Germany and France.

<sup>2</sup> for an extensive discussion of the educational reforms in France see Prost 1992a, 1992b; Lelièvre 1990; Robert 1993; Raynaud/Thibaud 1990; Léon 1972; Meylan 1983; Campinos-Dubernet 1995; Brauns 1996a.



vocational education in the 'lycées professionnelles'. The educational reforms have shifted entry into vocational training towards the third grade<sup>3</sup>, 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 ('Certificat d'Aptitude Professionnelle') which were prepared in three years of study after fifth grade. The CAP is now primarily an apprenticeship qualification. In France, apprenticeship qualification is not appreciated as a positive selection criteria, since is mainly acquired by those pupils who failed in the general educational system. In the mid 80s, a vocational 'Baccalauréat' ('Baccalauréat Professionnel') has been implemented that can also be accomplished in the framework of apprenticeship training.<sup>4</sup> At the same time, the national ministry decided to educate 80% of each age group to the level of the (general, technological or vocational) 'Baccalauréat' by the year 2000. In 1992, about 50% of a generation has already received the 'Baccalauréat' (Ministère de l'Education Nationale 1995). The 'Baccalauréat', however, became a highly stratified track. Not only the types of 'Baccalauréat', but also the 'series' within each type (Bac A to Bac D for the general 'Bac', Bac E to Bac F for the technological 'Bac', Bac G to H for the vocational 'Bac') are ranked hierarchically.

Tertiary education is highly differentiated in modern France. The university faculties allow entry to everybody holding a maturity certificate. Other higher education institutions, in particular the prestigious 'Grandes Ecoles' as well as some of the institutions specializing on training of technicians or engineers, recruit their students selectively. The massive expansion of 'bacheliers' over the last two decades has led to a great crush on tertiary education. For coping with the increasing demand for higher education and for adjusting school-leavers' qualification profile more strongly to the needs of the economy several new qualification tracks have been implemented. Since the 1960s, the 'Sections de Technicien Supérieur' (STS) and the 'Instituts Universitaires de Technologie' (IUT) offer a two-year formation ('Bac+2')<sup>5</sup> to train technicians. Additionally, a range of long-term university cycles for training of engineers have been created. While the universities are faced with an increasing 'massification' and, consequently, loss of allocative power, the 'Grandes Ecoles' have continued their tradition in a selection and formation of a very small elite in the whole range of scientific disciplines. The phenomenon of reserving training of the future social elite, whether in the civil service, academia or the private economy, to the 'Grandes Ecoles' still characterizes modern France (Suleiman 1979, 1995).

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<sup>3</sup> The 'premier cycle' covers four years of study from the sixth until the third grade.

<sup>4</sup> Despite attempts to raise the attractiveness of apprenticeship training in France, vocational education is still primarily provided within the state-controlled educational system (Tanguy 1991; Campinos-Dubernet/Grando 1988).

<sup>5</sup> The qualification level 'Bac+2' also refers to those students who leave the universities with an undergraduate degree (DEUG, 'Diplôme d'Etudes Universitaires Générales').

### The West German case

In contrast to France, a comprehensive system of lower secondary schooling has only been realized on a very limited scale (Köhler 1992). Germany basically kept its traditional three-tiered system: Following elementary education, German pupils are selected into either the five- (or six) year track of the 'Hauptschule' for completing compulsory schooling, the six-year track of the 'Realschule' for achieving intermediate general qualification ('Mittlere Reife') or into the nine-year track of the 'Gymnasium' for preparing the 'Abitur'. Compared to France, expansion of the Abitur was rather moderate in Germany: 23% of the school-leavers in 1992 have accomplished the 'Abitur' in contrast to 11% in 1970 (BMBF 1996). Even though several reforms for opening and diversifying 'Abitur'-tracks have been undertaken, curricula differentiation is not as highly institutionalized as in France. By introduction of the 'Fachhochschulreife' in the late 60s the German school system has opened up an additional channel for achieving maturity certification. The 'Fachhochschulreife', however, only opens access to the 'Fachhochschulen', not to the universities (Arbeitsgruppe Bildungsbericht 1994). Despite the expansion of general education in recent decades, a high percentage of pupils on all levels of secondary education opt for vocational qualification (BMBF 1997). In contrast to France, vocational education is primarily provided within the apprenticeship training system.<sup>6</sup> In recent years, however, the dual system of vocational training has been heavily criticized, in particular for not being oriented towards modern occupations as well as for a slow adaptability towards changing technological environments (Geißler 1991, 1995; Kutscha 1992). In reaction to these critiques, training has been diversified, adapted to modern production technologies and oriented towards 'key qualifications' (Greinert 1992; Schaumann 1991; Tessaring 1993).

The landscape of higher education is much less diverse and stratified than the French one (Windolf 1990; Müller/Steinmann/Schneider 1997). Academic training is traditionally provided by the universities, including the technical universities ('Technische Hochschulen'), that require at least four years of study. The universities demand the 'Abitur' as a prerequisite for admission. In the late 60s, the 'Fachhochschulen' and, in some Länder, a small number of short-cycle institutions were founded as more strongly to application oriented institutions. The courses cover three years of study and require the 'Fachhochschulreife' for admission. 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). Thus, at every level of the West German

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<sup>6</sup> The dual system of vocational training is not predominantly confined to the crafts industry as apprenticeship-training in France. It covers almost 400 federally recognized occupations in trade and administration, industry, services, agriculture, health etc. (OECD 1996). As regards description of the German vocational training system, we will dispense with details that are being discussed at length in many places (in English language see CEDEFOP 1991; OECD 1994, 1996).

educational system, preparation for specific occupations is offered, or put differently, a high number of occupations require specific educational certification.

#### NATIONAL LABOUR MARKET CHARACTERISTICS AND EDUCATIONAL PREREQUISITES

Institutional characteristics of the educational system are highly important for understanding the organization of work in the employment system, the regulation of careers and the use made of education for allocating persons to jobs (see Kurz/Müller 1987; Kerckhoff 1995; Müller/Shavit 1997). Segmentation theory claims that educational systems with occupationally related training generate segmentation along the lines of 'occupational labour markets' (OLMs) associated with a close link between vocational qualification and occupation and relatively low rates of firm-specific mobility throughout work-life. In contrast, educational systems that are not oriented towards qualifications of immediate use in the labour market are supposed to compel firms to compensate qualification lacks of their work-force by building up own training systems. This provokes segmentation features of '(firm) internal labour markets' (ILMs) which are associated with a rather loosely coupling of education and occupational attainment and with high rates of firm-intern mobility throughout work-life (Althausen 1989; Althausen/Kalleberg 1990). Segmentation theorists typically classify Germany as a country where occupationally segmented labour markets prevail. The dual system of vocational training is conceived as an important clue to this labour market type (Eyraud/Marsden/Silvestre 1990). France is generally placed into a different category typified by the predominance of (firm) internal labour markets. The relatively weak emphasis in the French educational system on vocational, especially practical training is taken as the main reason (Marsden/Ryan 1991, 1995).

The studies by Maurice and colleagues (Maurice/Sellier/Silvestre 1979; 1982; Silvestre 1974; Lutz 1976; Maurice/Sorge/Warner 1980) provide strong evidence of French-German differences in career patterns of manual workers. In the early 1970s, the LEST-group (Laboratoire d'Economie et de Sociologie du Travail) analyzed case study material from twelve French and German firms, matched with respect to size, product and technology. Looking at three different industries in the manufacturing sector, they come to the overall conclusion that Germany's industrial labour market can be qualified as a 'qualificational domain'. People are sorted into regulated career lines corresponding to occupationally related apprenticeship and educational credential. Skilled worker-positions would typically be reserved but also guaranteed to those having accomplished an apprenticeship. In contrast, the French manual sector is characterized as an 'organizational domain' where work-life mobility is relatively high but directed according to firm specific training experience rather than to generally valid credentials. The majority of holders of a vocational certificate (CAP) occupy unskilled positions at the beginning of their career. Only following upon years of special work-experience in the same firm, they would have the opportunity to access skilled posi-

tions. At the same time, unqualified school-leavers have relatively high chances of becoming skilled workers in France.

In a recent French-German comparison, Drexel (1993) has pursued a systematic investigation of cross-national differences and changes over time in recruitment patterns of technicians - employees occupying specialized functions below the level of engineers - and craftsmen who carry out lower management tasks. Technicians and craftsmen have traditionally been recruited through promotion of manual workers - though by different means in both countries: In Germany, technicians and craftsmen typically completed an apprenticeship following which they underwent a specialized training system. Admission to the master's, Foreman's or technician's examination required three to five years of practical work-experience and, at the same time, attendance at specialized schools. By contrast, only a minority of French technicians and craftsmen disposed of vocational qualification certificates. The firm appointed them technicians or craftsmen due to seniority but not by means of a specialized training system as in Germany. In the 1950s, a growing need for planning, supervisory and monitoring functions, demanding considerable technical knowledge and scientific thinking, was identified in both countries in order to adapt to modern industrial production. Germany stayed with charging the dual training system with provision of the skilled work force. According to French tradition, the task of training and provision of technicians was taken over by the national education system by means of introducing the technological tracks in the 1960s. Technicians were supposed to be hired directly from the so-called technological tracks which were implemented on the upper secondary and lower tertiary level ('Bac technologique', 'Bac Professionnel', 'Sections de Technicien Supérieur', 'Instituts Universitaires de Technologie'). Drexel's study shows that France hardly met the aim of creating a direct connecting line between the educational system and lower management positions in the employment system. Even though holders of the new technological diplomas profit from successful integration into the labour market, French firms tend to place them at the beginning of their working career into skilled worker positions rather than into technician positions. To some degree, this initial degradation at labour market entry will be compensated in the course of work-life. At the same time, this practice of outside appointments of school-leavers with a high-level technical diploma reduced the chances of workers from the shopfloor to be promoted into skilled and supervisory positions.

Only a few studies in organizational or industrial sociology refer to the upper organizational tiers. Bauer/Bertin-Mourot (1995a, 1995b) have conducted a French-German comparison of recruitment patterns into the top-management of 200 large-scale firms. The authors claim that German firms generally rely on a model of 'auto-production' for recruitment of their leading edge. An important proportion of holders of management positions has achieved basic vocational qualification in the dual system (often supplemented by specialized training

within the framework of further education) and has ‘climbed the internal ladder’ to top positions. In contrast, French firms recruit from the highest ranks of the educational system for occupying management positions. They follow a strategy of ‘sous-traitance’ by delegating the selection of their leading edge to the educational system. A high proportion of top-management positions in large French firms is allocated to holders of a prestigious Grande Ecole-Diploma, often without requiring any task-specific work-experience from them.<sup>7</sup> Consequently, French organizations seem to exhibit in higher segments a much closer link between education and job position than German organizations (see Bauer/Bertin-Mouroit 1995a, 1995b; Windolf 1984; Barsoux/Lawrence 1992; Boltanski 1992).

### 3. Hypotheses

Our hypotheses focus on three, closely related issues. The first issue refers to the question of change or stability in the link between education and occupational achievement in both countries over time. Closely related to this issue, we derive hypotheses with respect to French-German dissimilarities in occupational stratification by education. Do we expect processes of convergence between 1970 and 1990 or persisting cross-national dissimilarities, and if so, what kind of? In a third step, we consider female-male differences. Can we assume that there are in fact *national* particularities in job allocation principles and in the respective use made of education? Or do we expect gender-specific patterns in the returns to education to diverge from each other systematically, to the same degree in both countries and continuously over the period investigated?

#### Changes in each country over time

The above mentioned studies have documented that two aspects seem to be of particular importance for understanding the link between individuals’ education and their labour market outcomes: predominant characteristics of the educational system and, closely related to that, the specific labour market setting and context of work organization.

#### CHANGES IN THE EDUCATIONAL SYSTEM

In the above mentioned studies the German labour market is traditionally characterized as a ‘qualificational domain’ in contrast to the French labour market where educational credentials were supposed to be of less value and importance. The relatively weak emphasis in the former French educational system on vocational training as well as the extremely high pro-

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<sup>7</sup> French engineers for example automatically enjoy ‘cadre’ status which implies an important social distinction and various social privileges. Although technicians can cross the barrier to become cadre, those ‘autodidactes’ would be graded as ‘ingénieur maison’ whose status is not transferable across the borders of the firm (Lane 1989).

portion of school-leavers without any qualification is taken as the main reason for the French labour market characteristics in the early 1970s. Between 1970 and 1990, the French educational system, and accordingly, school-leavers qualification profile strongly changed. First, the educational reforms went along with an increased vertical and horizontal differentiation of the educational system associated with the implementation of several vocationally oriented tracks. Second, the process of educational expansion was rapid and, compared to the 1970s as a benchmark, more far-reaching than in Germany. Compared to 1970, when French employers had to draw on cohorts with extremely high proportions of only compulsory qualified school-leavers, the qualification profile of today's school-leavers is up-graded, diversified, and more closely tied to the needs of economy. *Therefore, we expect formal education to have gained in importance as a screening device in France.*

#### GENERAL CHANGES IN LABOUR MARKET CONDITIONS AND WORK ORGANIZATION

In addition, changes in labour market conditions and work organization suggest changes especially in French employer's recruitment strategies. Prior research has characterized the French labour market of the early 1970s as an 'organizational domain': A high percentage of skilled position has been allocated to initially unqualified school-leavers who attained qualification in the framework of enterprise-specific training throughout work-life. This particularity, often associated with the practice of 'internal labour markets', assumes considerable investments by the employers into training on the job which can only be recouped over the long run. To insure the returns on that investment, the employers need to anticipate long-term employment contracts with their employees and to take certain steps to enhance the likelihood that the workers will stay with the firm. Recent developments on the French labour market, however, suggest that employers seek more flexibility in their employment contracts and anticipate lay-offs due to changing circumstances on the resource- and salesmarkets. At the same time, the diffusion of new organizational concepts, like lean management and hierarchies, quality circles etc. leading to the elimination of taylorist organization of work (Lutz 1994) should have contributed to a declining importance of internal labour markets in French enterprises. Rather than relying on training on the job of initially unskilled school-leavers, these organizational concepts require qualified workers to be recruited from the external market. Overall, we assume that it became more risky and inefficient for French employers to develop skills and competencies inside organizations, while the costs of relying on the external market to secure skills may now be lower due to a better availability of vocational qualifications provided by the educational system. *This should not only have reduced unskilled school-leavers' general chances to enter the labour market (see Brauns/Steinmann/Kieffer/Marry 1995) - since many unskilled tasks have been incorporated into existing jobs - but also their chances to access skilled jobs by working their way up an organization, once they get employed.* By contrast, the marginal position of vocationally unskilled school-leavers has always been a characteristic of the German labour market. Due to changing work organization and techno-

logical progress, however, Lutz (1976: 147) has claimed a decreasing tendency of German employers to solve skill adaptation problems by training of selected personnel. *For recruitment into the higher organizational segments, German employers are therefore supposed to rely more strongly on external, that is direct recruitment from the highest ranks of the educational system than in former times.*

#### PROFESSIONALIZATION OF SKILLED WORK

Despite several pessimistic forecasts which declared traditional industrial and crafts occupations obsolete during the post-war decades, there are visible signs of consistently well-functioning occupational labour markets in Germany (Lutz 1994). Occupational systems ('Berufssysteme') cover a broad range of manual and non-manual occupational activities. Occupationally structured labour profit from strong institutional interconnections between the labour market and the vocational qualification system. They function on the basis of a nationally recognized certification system which confines access to holders of specific entrance tickets. By positing entrance, namely vocational qualification prerequisites for a high number of occupational positions, this type of labour market protects holders of these entrance tickets against competition arising from lower qualified, possibly cheaper school-leavers. At the same time, it also protects holders of vocational diplomas against displacement by higher qualified school-leavers of the general educational system which, in periods of a surplus of supply of qualified labour due to economic recession or educational expansion, may be willing to offer their labour below par. Efficient occupational systems to a certain extent block the operation of such competitive labour markets where returns on educational investment strongly move with structural or cyclical changes in supply and demand. Put differently, the efficiency of vocational training systems depends on the existence of far-reaching occupational systems (see Lutz 1994). *Despite the opening of upper secondary and higher education institutions in the last twenty years, we still expect the apprenticeship system to be of crucial importance to German employers in qualifying their future skilled work-force, whether manual or non-manual. Therefore, we assume that processes of displacement of vocationally qualified school-leavers due to the expansion of upper secondary and tertiary education should have occurred only to a limited degree.*

Although the French apprenticeship system has been elaborated and in parts reconceptualized 'à l'Allemande', a formally recognized linkage between vocational qualification and job position has not been institutionalized yet (Rothe 1995). In practice, many French employers still regard apprenticeship training as ineffective in producing skills which are directly relevant to actual industrial work requirements. Since several technological tracks have been implemented on the upper secondary and tertiary level, French employers tend instead to favor holders of the technological certificates for carrying out skilled manual work prior to upgrading some of them to technicians or craftsmen (Drexel 1993). *This recruitment pattern*

*suggests that the traditionally high chances of upward mobility into skilled manual positions that did exist for vocationally unqualified and CAP-qualified school-leavers (see Maurice/Sellier/Silvestre 1979, 1982) have considerably declined over time. The creation of technological tracks has produced a competition ‘from above’ (Drexel 1993) that might have narrowed the opportunities for those whose career was highly dependent on practical experience and firm-related seniority. As regards the non-manual employment sector, skilled (clerical or rank-and-file) work has never been and is not professionalized to the same degree as in Germany. Recruitment into non-manual positions heavily relied on general education. We expect stability in the priority given to general education in the non-manual employment sector. Vocational qualification is not acknowledged as a positive signal for school-leavers occupational and cognitive skills. Instead, employers need to rely on other screening filters for evaluating school-leavers potential to develop the skills in question. In contrast to Germany, Thurow’s (1975) queuing model which ranks job-applicants according to their potential ‘training costs’ seems to give an adequate representation of job allocation in French organizations. 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 for queuing job-applicants is their relative position in the distribution of general education: ‘the more is better’. Vacant job positions should in first place be filled up with higher qualified school-leavers from the general educational system. Therefore, we expect the expansion of higher education to be accompanied by a decrease in career prospects of school-leavers with lower levels of educational attainment.*

### **Cross national variation and similarities**

Due to the enormous decrease in the proportion of school-leavers with no more than elementary education, König/Müller (1986: 92) expect France to have moved in the direction of the German pattern in the course of educational expansion. *We agree in the very general sense that educational credentials should have gained in importance in France. In some respect, Germany might also have converged in direction of France: German employers are supposed to handle the problem of skill adaptation increasingly by external recruitment from the higher ranks of the educational system instead of relying on specialized training for selected personnel. Despite these tendencies, however, we do not expect the French pattern of occupational stratification by education to mirror the German one.* First, the importance of elite-schools and their exclusive link to employment in higher state and management positions is still unique to France. Consequently, we assume the highest social class positions to be more closed up against lower qualified school-leavers than in Germany. Second, we assume that the German labour market still attaches more importance to vocational qualifications than the French one. The reason for it are national differences in the degree to which manual as well as non-manual occupational activities are historically professionalized and require specific certification.



### **Gender differences**

For both countries, we reject the idea of so-called ‘national’, namely gender-neutral patterns of occupational stratification by education. Gender-specific variation in the returns to education may partly be expected as a result of sex differences in labour market status, i.e. in actual hours spent on the labour market. Due to domestic responsibilities, women may often choose or be channeled in part-time work, thereby in employment of less quality and poorer career prospects (OECD 1983: 44, 1988: 149, 1990). Despite a remarkable rise in women’s full-time commitment to work over the last twenty years, occupational sex segregation is a characteristic and stable attribute of modern societies (OECD 1988; Kattein 1994; Osterloh/Oberholzer 1994). Men and women strongly differ with respect to the location of their work places (industry and firm) and the nature of tasks performed (occupation and authority). Mainstream sociological and economic research emphasizes various factors for explaining gender differences in labour market outcomes.<sup>8</sup> Interpretation of cross-national variation in gender differences in labour market outcomes, however, requires careful consideration of the prevailing national context of female labour force participation.

#### GENDER IDEOLOGY AND POLICY IN SOCIETY AT LARGE

Inequality of labour market rewards between men and women should be less pronounced in countries where an ideology prevails that emphasizes gender equality. Recent opinion-polls provide evidence that French citizens overall share a more egalitarian ideology than German citizens. Individual attitudes on ‘woman’s role in society’ and preferable mode of household division for example reveal to be much less conservative in France than in Germany (Becker 1989; Eurobarometer 1987; Ostner 1993). At the same time, the equal opportunity policies of the 1970s and 1980s have made important contributions to French women’s general economic opportunities. The arrangements for maternity and parental leave are among the most generous in the EC (Fagnani 1992, 1995; Hantrais/Letablier 1995; Hantrais 1993; Neubauer 1993; Bahle 1995). France might also be singled out as promoting *active* measures for influencing companies’ personal policy in favor of women (OECD 1988: 166). In addition, the support structure provided by child care institutions and full-time schooling facilities is much more favorable in France than in Germany (Frauen Europas 1990; Ministère de l’Education Nationale 1992). All these conditions should render French women more able than German women to make the commitments in time necessary to take up superior opportunities offered

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<sup>8</sup> Supply-side approaches primarily argue for women’s relative deficits in human capital, namely formal education and work experience (Polachek 1981; Mincer/Polachek 1974; Becker 1971), or for their self-selection due to specific socialization and family duties (Beck-Gernsheim 1976). Many researchers agree that supply-side approaches cannot fully account for women’s channeling into specific organizations and occupations. Discrimination models, though from varying theoretical perspectives (Becker 1957, 1971; Arrow 1974; Edwards/Reich/Gordon 1975; Phelps 1972; Cain 1976; Thurow 1975), predict employer’s unequal treating of men and women despite considerable overlap in human capital and other attributes. Still other approaches refer to the institutional and societal embeddedness of labour market processes by pointing out characteristics of the labour market setting (Rosenfeld/Kalleberg 1991) or the ideological as well as political sphere of society at large (Charles 1992).

by career-oriented occupations. *Due to a more egalitarian gender ideology, a favorable general political climate and a well established institutional support structure, we expect less sex differences in occupational stratification by education in France than in Germany.*

#### HUMAN CAPITAL

Human capital theory argues that differences in educational investment and labour force experience lead to gender-specific variations in labour market outcomes. At comparable qualification levels, one might expect differences in men's and women's curricula choices to produce unequal labour market outcomes. Mainstream educational research suggests that women rather choose 'soft' curricula, while men invest in stronger to technics or natural sciences oriented disciplines that are more highly valued on the labour market. While WWII has been followed in both countries by some approximation in men's and women's curriculum choices, sex segregation appears to be less pronounced in today's French educational system (Brauns/Steinmann/Kieffer/Marry 1995). *From a comparative perspective, we therefore expect France to exhibit less gender-specific variation in occupational stratification by education that is due to sex differences in curricula choices.*

Human capital theory refers to labour force experience as an important component of individuals' stock of human capital. Employment interruptions represent times when human capital is not accumulated and when previously acquired human capital may even depreciate. Since discontinuity of labour force participation due to maternity and parental leave is a more common characteristic of women's work histories, women are supposed to accumulate less human capital than men after school-leaving. At advanced stages of career, women should therefore be disadvantaged in their occupational chances. In Germany, the majority of women interrupt their occupational careers between the age of 25 to 40 in order to take care of their children. By contrast, France is one of the few countries where the majority of women pursue a continuous working-career despite the double burden of child-rearing responsibilities (Frauen Europas 1990: 5-7; Kattein 1994: 27). *According to the reasoning of human capital theory, sex-differences in occupational chances in advanced career stages should then be less pronounced in France.*

To sum up, we expect gender-differences in the returns to education in both countries, though to a smaller extent in France. Over time, however, the disparities should have declined, and the more 'regular' female labour force participation becomes, the more we should identify a true 'societal effect': national institutions highly structure both men's and women's labour market careers.

#### 4. Data, Variables and Modeling Strategy

The empirical analyses draw on two French and two German representative labour force surveys that were carried out in the early 1970s and early 1990s respectively. This research design allows us to investigate change or stability in occupational stratification by education in each country over a period of twenty years and to compare national patterns at both historical time points. The French data are from the 1971 and 1991 ‘Enquête Emploi’, conducted by INSEE, the central statistical office in France (for more information see INSEE 1971, 1992). The German data stem from the Statistische Bundesamt, the German central statistical office.<sup>9</sup> We used a 1% sample of the 1970 population census and a 70% sample of the 1991 micro-census<sup>10</sup> (for more information see ZUMA 1994a, 1994b, 1995; Statistisches Bundesamt 1990).<sup>11</sup>

For the purpose of our analyses, foreigners, students, apprentices and persons liable to military service were excluded from all data sets. The German survey for 1991 has also been confined to the West-German population, the French one to ‘Français de naissance’. Furthermore, the analyses are restricted to members of the active labour force who are supposed to have left school between five and ten years ago at the time of inquiry. The underlying reason for this selection was to capture the returns of educational achievement for respondents who are in similar and already advanced stages of their working and family careers (see Papastefanou 1990; Tölke 1990).<sup>12</sup> After restricting the samples to respondents with non-missing values on all important dependent and independent variables (see below), we have for the 1970 German sample a total of 19.641 men and 10.713 women, for the 1971 French sample a total of 5.791 men and 4.281 women. The 1991 samples yield 20.491 men and 13.743 women for the German data set, 5.460 men and 4.388 women for the French data set.

As the dependent variable, and as an indicator for ‘returns to education’ or ‘labour market outcome’, the categorical variable ‘social class position’ has been constructed according to the restricted (6-fold) version of the well-known EGP class schema

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<sup>9</sup> The French data are made available by LASMAS-IDL/CNRS. The German data sets were made available to us by ZUMA (Center for Surveys, Methods, and Analysis in Mannheim). We would like to thank ZUMA-Mikrodaten for providing us access to the data and for being helpful in many respects.

<sup>10</sup> the German microcensus covers 1% of all German households.

<sup>11</sup> Cross-national comparisons on the basis of secondary analysis of labour force surveys are rarely carried out, mostly due to national restrictions in access to the data. Labour force surveys profit from many advantages over other cross-section population surveys. First, they are one of the most extensive sources of information on labour force participation, occupational attainment and other work-related outcomes. Second, they are household surveys and therefore include individual as well as family (and household) related information. Third, they represent the most reliable source of information and provide large sample sizes. The latter allows for a meaningful disaggregation of the sample population and for carrying out detailed analyses.

<sup>12</sup> The selection of this population has been accomplished on the basis of information on the respondent’s highest educational qualification achieved, allowing the calculation of his approximate school-leaving age, and his age at the time of inquiry.

(Erikson/Goldthorpe/Portocarero 1979; Erikson/Goldthorpe 1992; Shavit/Müller 1997; see table A2 in Appendix). It permits five alternatives of class-membership (I,II,III,IV,V/VI) to be tested against the probability of being in the unskilled worker-class (VII). We limit our choice to three explanatory variables: educational attainment, marital status and the presence of children.<sup>13</sup> Educational attainment is specified as six dummy-variables for the 1970s surveys and as seven dummy-variables for the 1991 surveys. The notation of the qualification levels corresponds to the classification developed by the CASMIN-project (König/Lüttinger/Müller 1988). In contrast to educational scales that base upon years of schooling, certificate-oriented classifications like the CASMIN-scheme allow precise measuring of the returns to specific educational credentials, both general and vocational, and thereby investigation of the effects associated with certain educational reforms. The categories of the CASMIN-schema refer to the following national qualification levels:

<i>1a/b</i>	<i>inadequately completed compulsory schooling or completed compulsory schooling</i>
	Germany: ohne Abschluß, Volks-, Hauptschulabschluß
	France: pas de Diplôme, CEP
<i>1c</i>	<i>completed compulsory schooling + basic vocational qualification</i>
	Germany: Volksschulabschluß + berufl. Ausbildungsabschluß
	France: CEP + CAP
<i>2b</i>	<i>intermediate general qualification</i>
	Germany: Mittlere Reife
	France: BE/BC/BEPC
<i>2a</i>	<i>intermediate general qualification + vocational qualification</i>
	Germany: Mittlere Reife + berufl. Ausbildungsabschluß
	France: BE/BC/BEPC + CAP/BEP
<i>2c</i>	<i>maturity certificate</i>
	Germany: Fachhochschulreife/Abitur/Abitur + berufl. Ausbildungsabschluß
	France: BS/BT/Bac Général/Bac Technologique/ Bac Professionnel
<i>3a</i>	<i>lower tertiary certificate</i>
	Germany: Ingenieurschul-, Fachhochschulabschluß
	France: BTS/DUT/Dipl. Paramédicale/Dipl. Pédagogique
<i>3b</i>	<i>higher tertiary certificate</i>
	Germany: Universitätsabschluß
	France: Dipl. de l'Université/Dipl. Grande Ecole

Categories 3a and 3b are classified together for the 1970/1971 surveys. In all analyses category '1a/b' serves as the reference category. Control of family-related variables is especially important when investigating women's returns to education. Family-related variables are therefore introduced in all our models. Marital Status is defined as 'married' versus

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<sup>13</sup> We do not attempt here to estimate elaborate multivariate models for explaining individuals' occupational achievement. The objective of a cross-national and historical comparison demands to restrict choice as well as empirical specifications of the independent variables to a 'common denominator'. For instance, social origin variables are not included in all of the four surveys. For the same reason, variables indicating horizontal dimensions of individuals' educational qualification, like specialization in vocational training or in tertiary qualification are excluded from the range of independent variables. For the purpose of comparison, we also decided to construct strictly comparable indicators of highest qualification achieved. We are aware that, in some respects, this procedure results in quite heterogeneous categories, thereby in loss of precision for one but not the other country. These problems reflect to a large extent characteristics of systematic cross-national and cross-temporal research involving not only data sets with varying restrictions but also societies with particularities and developments of their own.

‘unmarried’, the latter being used as the reference category. In addition, we incorporate a dichotomous variable taking the presence of children into account. It scores ‘1’ if the respondent has one or more children below the age of 16 as opposed to ‘0’ referring to no children or children older than 15.

In this paper, we conduct multinomial logistic regressions which - in multiplicative formulation - express the association between educational credentials and social class position as a set of odds ratios.<sup>14</sup> Consequently, returns to education and corresponding changes over time will in first place be measured in relative terms insofar as we concentrate on the competitive (dis)advantage that is provided by specific educational credentials compared to the chances provided by other credentials. The empirical analysis proceeds in a sequence of steps. For each country, each sex and each historical time point we estimate separate models for a careful inspection of the parameters, say national, historical and gender-specific particularities in the returns to education. When it comes to a statistical examination of the hypotheses specified above - as regards significant changes in national patterns of occupational stratification over time, cross-national differences and gender-variations -, we pool the data sets for the respective populations. In the pooled analyses, historical time point, country or sex are then treated as dummy-variables.

## 5. Results

We first examine the question of change over time in national (French and German) patterns of occupational stratification by education. Table 1 (panel A and B) presents the results for German men in the early 1970s and 1990s respectively. The results of the corresponding models for French men are found in table 3 (panel A and B). Tables 2 and 4 indicate results of models that are pooled over the two historical time periods for Germany and France respectively. For simplicity of presentation, we only take into account the parameters pertaining to the interaction terms of education by historical time period. Positive signs indicate significantly increasing effects of the respective educational grade over historical time; negative signs indicate significantly decreasing effects of the respective educational grade, no symbol reflects stability or insignificant changes in the returns to education over time.<sup>15</sup>

### Changes in each country over time

According to the findings of the above mentioned studies, we started from the assumption of a dominantly ‘qualificational domain’ characterizing the German labour market in the

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14 The odds ratio is defined as the odds of individuals holding educational credential *i* being found in Class *j* rather than in Class VII, relative to the corresponding odds for individuals with only minimum education (1ab).

15 The variable ‘historical time point’ is coded as ‘1’ if it pertains to the year 1991, ‘0’ for the year 1970/1971.

1970s in contrast to the French labour market type where educational credentials were supposed to be of less value and importance. Even though German employers might have reinforced external recruitment of higher education graduates over time for solving problems of skill adaptation, we still argued for a high importance of vocational qualification certificates for manual and non-manual employment due to the persistence of well-functioning occupational labour markets. In France, formal education is supposed to have increased in importance for two main reasons: 1) fundamental changes in school-leavers qualification profile; 2) general changes in labour market conditions and work organization requiring skilled workers to be recruited from the external market. At the same time, we expect the dramatic increase in holders of upper secondary and tertiary certificates to be accompanied by a relative devaluation of lower-level qualifications.

Table 1 (panel A) shows for 1970 Germany an increase in chances to access the Service Classes (Classes I and II) the higher the qualification one has reached. However, the results suggest interesting differences between patterns of recruitment into the two Service Classes. As regards the highest class (I), the pattern is almost S-shaped, describing a sharp increase in chances with intermediate general qualification (compared to compulsory schooling with or without vocational qualification), minor though still significant improvement of chances with additional vocational qualification or maturity certification, and again a distinctive increase for tertiary qualified school-leavers. What counts for Service Class I is primarily the level of general education reached, additional vocational qualification (categories 1c and 2a) clearly pays off, but not to the same degree as the next higher general certificate. By contrast, although ‘the more (generally) qualified, the better the chances’ still holds, access to Service Class II which combines semi-professionals, technicians and lower-level managers seems to be more tied or open to vocational qualification than Class I: the competitive advantage of school-leavers who completed a vocational qualification after a general curriculum on the lower secondary level over schoolmates who did not but left school at that stage is very pronounced. Even school-leavers who followed vocational education after compulsory schooling profit from relatively good chances to get a Class II position. At the same time, the relative advantage adhering to tertiary certification, especially compared to intermediate vocational and maturity qualification, is less decided for access to Class II than to I. Overall, vocational qualification plays an important role in 1970 Germany, not only for Class II positions but especially for the skilled manual work-force (V/VI), for self-employed craftsmen as well as farmers (IV) and, to some degree, for clerical and rank-and-file service work (Class III). The findings relative to the skilled manual work force correspond to what many studies in organizational and industrial sociology have shown and explained as the outcome of the national system of apprenticeship training. A skilled position in the manual work force is almost exclusively restricted to vocationally qualified school-leavers, predominantly apprentices. Individuals who left school with intermediate general qualification or even a maturity certificate

still have a slight advantage over only minimal (compulsory or less) qualified school-leavers, but suffer from a strong disadvantage compared to those who pursued a vocational qualification track whatever their general education background may be. At first sight, the finding of a relatively close link between post-secondary education and the skilled manual work force seems surprising. However, the category ‘tertiary education’ combines two groups, namely upper tertiary qualification, mainly university degrees, and lower tertiary qualification, predominantly technical degrees provided by the former ‘Ingenieurschulen’. Many technicians that are classified in Class V come from the ‘Ingenieurschulen’ and thereby hold a technical degree on the lower tertiary level. A vocational training certificate is also an important, if not necessary ticket of entry to the Class of the petty bourgeoisie (IVab), namely small employers, proprietors and artisans. In Germany, self-employed crafts-trade traditionally requires a master craftsman’s examination. Finally, the relatively close link between Class III and vocational qualification following intermediate general education or maturity certification reflects the principles of recruitment into the lower ranks of the public bureaucracy and into the staff of private enterprises. Not only skilled manual work or - as in France - higher occupational ranks require specific educational certification, the same does clerical and, to some degree, also sales work. The vocational training system qualifies for skilled manual as well as non-manual jobs. It plays a central role for the extent to which skilled work - whether manual or non-manual - is professionalized in 1970 *and* 1991 Germany.

If we look at Germany in the early 1990s (see table 1, panel B), we observe indeed a certain amount of stability in the pattern of occupational stratification by education. Stability occurs in the manual work-force, i.e. the industrial sector that Maurice and colleagues referred to as a ‘qualificational domain’: Vocational qualification is still an almost necessary condition for carrying out skilled industrial and crafts work (Classes V/VI, IVab). The relevance of vocational qualification certificates is also salient with regard to the non-manual employment sector. The apprenticeship certificate in particular on top of intermediate general qualification (‘Mittlere Reife’) - to almost the same degree as maturity qualification - endows with a clear advantage over minor qualifications for accessing the intermediate and lower ranks of the public bureaucracy, the staff of private enterprises or commercial occupations (Class II-III).<sup>16</sup>

At the same time, we notice important changes in the effects of education (see table 2): Between 1970 and 1990, tertiary education became much more relevant as a placement ticket on the labour market. Holders of higher education diplomas today have a distinctive advan-

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<sup>16</sup> Table 2, however, signals a significantly negative parameter for intermediate general education plus vocational qualification, that is a significant decrease over time in the relative distance between vocationally qualified school-leavers with intermediate general education and only minimum qualified school-leavers. This finding does not suggest true changes in education effects, but rather changes in the social composition of Class III. According to the EGP coding-scheme, Class III combines qualified (IIIa) and unqualified (IIIb) non-manual jobs. In 1990, the share of individuals occupying Class IIIb job as compared to Class IIIa jobs is higher than in 1970.

tage over other school-leavers in getting into all other class positions rather than into the unskilled workers class (VII). What are the concrete findings? Most visibly, access to the Service Classes (Classes I-II), especially to Service Class I, became more exclusive, i.e. strongly tied to higher education and relatively closed against school-leavers holding the intermediate general certificate or less. Due to the expansion of tertiary education, higher education graduates displaced school-leavers holding lower level degrees: the latter's relative and factual chances in finding access to the most advantageous occupational positions significantly decreased between 1970 and 1990 (see table 2 and table A3 in Appendix). Hence, increasing proportions of higher education graduates have provoked closure in recruitment to the highest social class positions which implies declining chances of upward-mobility throughout worklife for lower (generally and vocationally) qualified school-leavers. Even though the chances of university graduates relative to lower qualified school-leavers increased over time, the findings also suggest that post-secondary education has become a necessary rather than a sufficient prerequisite (for a discussion see Plicht/Schober/Schreyer 1994; Büchel 1996; Handl 1986, 1996; Müller/Steinmann/Ell 1997). In other words, we also observe a tendency towards devaluation of higher education certificates itself if we consider returns to higher education in absolute terms (see table A3 in Appendix): In the early 1990s, a smaller percentage of lower as well as higher tertiary education graduates achieved Service Class I positions than in 1970. Compared to the 1970s, higher education graduates are today more wide-spread over the whole range of non-manual class positions. In summary, our analyses have shown that recruitment became more selective by education than earlier. The expansion of post-secondary education has rendered entry into the highest social class positions more difficult for all educational groups including higher education graduates. Most visibly, however, increasing proportions of higher education graduates have displaced lower-qualified school-leavers into less advantageous class positions or even into unemployment. What protects individuals who leave the general school-system at the secondary level or below is still vocational qualification. Even though the (relative and absolute) pay-off to vocational qualification with regard to employment in the non-manual sector also declined in Germany over time, it still opens additional opportunities to those who do not enter higher education.

Looking at France, we observe in the 1970s (see table 3, panel A) a quite similar pattern of recruitment into the highest social class (Service Class I) as in Germany at that time: the more education, especially general education, the better the chances. Some difference, however, is salient. Tertiary education and especially maturity certification has an even more exposed position than in 1970 Germany: access to the most advantageous occupational positions is very closely tied to upper and post-secondary education. As regards recruitment into Service Class II, we find a less advantageous position of vocationally qualified school-leavers than in Germany. Compared to leaving school at some stage of general education, additional voca-



tional or technical qualification does improve one's chances, but the pay-off is very small and not comparable to the opportunities provided by the next higher degree in the general school-system. Achievement of the intermediate general certificate and of the maturity certificate - compared to lower qualifications respectively - represent milestones when it comes to getting into all non-manual classes (Classes I-III). Overall, the 'Baccalauréat' reveals to be a very distinguished and highly valued certificate in France at that time. In contrast to the German 'Abitur' in the early 1970s, the French maturity certificate stands out very clearly in comparison to lower secondary and vocational qualifications. This is not only true with respect to recruitment into the non-manual work force (Classes I- III) but also with respect to the skilled manual work-force (Class V/VI) and self-employment (Class IV). As the LEST-project has already pointed out in its French-German case-studies, here lies the major difference to the German pattern of occupational stratification by education: Whereas vocational qualification is not much valued - at least not to the same extent as in the German industrial labour market - , one's level of general education is a very important signal in 1970 France.

Over time, we observe interesting changes in the French pattern of occupational stratification by education (see table 3, panel B, and table 4). As regards access to the top of class structure, we find an even closer link between higher tertiary education and Class I than in the 1970s. Compared to Germany, however, the tendency towards increasing closure of the higher social classes has been rather moderate, presumably due to a traditionally already more selective recruitment in France. At the same time, higher education reveals to be more differentiated in France insofar as returns to lower tertiary education, namely 'Bac+2' certificates, strongly differ from those to higher tertiary education which include (upper) university as well as Grande Ecole-diplomas. This contrasts to Germany: compared to holders of a 'Fachhochschul'-diploma (category 3a), German university students (category 3b) do not profit to the same extent from such an advantageous position. The 'Fachhochschul'-diploma seems to be more highly valued on the labour market than the French 'Bac+2'. It is important to notice, however, that the French level of 'Bac+2' hides very different qualifications. Some of them are purely technical and might rather be qualified as secondary-level vocational qualification from a German perspective.

The most evident finding concerns the decline in the relative and absolute returns of general secondary education, the 'Baccalauréat' and the intermediate general certificate (BEPC), over time (see also Baudelot/Glaude 1989). In the early 1970s, the 'Bac' had a very prestigious reputation and promised exclusive occupational chances. Today, it definitely still improves one's occupational chances compared to lower-secondary or vocational schooling, but ranks school-leavers on a less outstanding position than before. There might be two reasons for this development: First, the expansion of higher education by means of opening several new qualification tracks on the level of 'Bac+2' has led to a relative devaluation of

the maturity certificate: holders of the ‘Baccalauréat’ are being more and more replaced by school-leavers who are qualified on the level ‘Bac+2’. Compared to the German ‘Fachhochschuldiplom’, ‘Bac+2’ is situated more on the intermediate level between upper secondary schooling and higher tertiary education and represents a less academic qualification. Second, the reforms dealing with the ‘Baccalauréat’ itself seem to be responsible for its loss of value over time. Whereas the German ‘Abitur’ signals a quite homogeneous qualification despite variation in curricula options, the French ‘Bac’ is not any more perceived as a uniform qualification. Due to the institutional reforms and the educational policy ‘to educate 80% of a generation to the level of the Baccalauréat’, the ‘Baccalauréat’ became a highly differentiated track. Some of the French ‘Baccalauréats’, like the highly selective mathematical Bac C, enjoy distinctive prestige and open up excellent career options. Others, in particular the professional Bacs seem to have allowed the huge opening of upper secondary institutions in France, but offer minor career opportunities. The technological tracks on the upper secondary as well as lower tertiary level (‘Bac technologique’, ‘Bac Professionnel’, ‘Sections de Technicien Supérieur’, ‘Instituts Universitaires de Technologie’) have originally been created as a direct channel to lower management positions. As Drexel (1993) has shown, French employers tend instead to favor holders of the technological certificates for carrying out skilled manual work prior to upgrading some of them to technicians. Our findings basically confirm Drexel’s study: Due to the implementation of new vocational and technological tracks on the upper and post-secondary level, vocational skills - though on a high level - as compared to general education became more important for getting into skilled manual positions. Consequently, the occupational chances of lower qualified school-leavers decreased. The findings therefore suggest changes in the ‘organizational domain’ as described by Maurice/Sellier/Silvestre (1979, 1982). When it comes to non-manual occupations, we still observe a comparatively stronger importance of general education, i.e. no significant pay-off due to achievement of the BEP following intermediate general qualification e.g. Over time, however, the educational expansion has clearly released a process towards displacement of secondary school-leavers by higher education graduates (see table 4).

The second part of our analysis is aiming at a résumé of cross-national differences and similarities. Table 5 (panel A and B) relates to French-German differences in the 1970s and 1990s respectively. The analyses draw on the male populations for both France and Germany. The tables only consider the parameters pertaining to the interaction terms of education by country. Positive signs indicate significantly higher effects of the respective educational grade in Germany than in France; negative signs indicate significantly smaller effects of the respective educational grade in Germany than in France, no symbol reflects insignificant cross-national differences.<sup>17</sup>

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<sup>17</sup> The variable ‘country’ refers to Germany as ‘1’ and to France as the reference category.

### **Cross-national variation and similarities**

Besides recruitment into the very top of class structure, we find stronger effects of education in 1970 Germany than in 1971 France. Especially the competitive advantage for vocationally qualified school-leavers (categories 1c, 2a) reveals to be a distinctive feature of the German labour market. The pooled model over nation (see table 5, panel A) confirms the importance placed on vocational education in 1970 Germany compared to France. In return, those who leave the general school-system without any vocational qualification suffer from relative disadvantages compared to their French counterparts. Since internal labour markets assume considerable investments by the employers into training on the job, school-leavers' level of general education functions as an important signal to French employers. Our findings largely support Maurice and colleagues (Maurice/Sellier/Silvestre 1979, 1982; Lutz 1976) who have shown that school-leavers without vocational qualification have relatively good chances in 1970 France to be upwardly mobile throughout worklife, namely to be promoted from unskilled to skilled positions. In 1970 Germany, the organizational opportunity structure is typically not constructed as such that employees would move from unskilled to skilled positions due to seniority. Unqualified school-leavers have seldom the opportunity to get into the skilled manual-work force. On the other hand, the pooled model over nation indicates more rigidity in 1970 France as regards recruitment to top-positions. Access to the most privileged social class positions is to a stronger extent closed up than in Germany, allowing for less upward-mobility through work-experience.

We argued that convergence between France and Germany might have taken place over time in the very general sense that educational credentials have gained in importance in France and that Germany employers show a stronger tendency towards external recruitment of higher educated school-leavers for solving skill problems rather than relying on career advancement of selected personnel. We did not expect the French pattern of occupational stratification to mirror the German one due to persisting national particularities in: 1) the high importance placed on vocational qualification in Germany as a result of the extent to which occupational activities are professionalized in the manual and non-manual employment sector; 2) the still closer link between higher education and highest social class positions in France. The analyses have suggested that - besides the upper segment - the German labour market is still more rigid than the French one due to the institutionalization of educational certification for access to skilled manual and non-manual work. The pooled model (see table 5, panel B) now indicates even stronger differences between France and Germany in this respect than in the early 1970s. The results of the single, national model (tables 1 and 3), however, suggested more of a convergence in French and German job allocation principles than the pooled model reveals: France moved in direction of Germany insofar as the effect of vocational qualification (as compared to general qualification alone) especially on distinguishing between employment chances in skilled and non-skilled manual work has increased. The vocational skills that

definitely pay off in France, however, are relatively high level, namely technical qualifications (upper secondary or lower tertiary level). Finally, we have observed that the German labour market still reveals less rigidity than the French labour market in the recruitment to top positions. Over time, however, Germany has moved in the direction of the French pattern by closing recruitment to the highest social class positions more and more up to all but holders of post-secondary, especially university diplomas (Class I).<sup>18</sup>

Our analyses basically confirm the validity and persistence of the typology proposed by Maurice and colleagues (1979, 1982) as well as the typology presented by Bauer/Berthin-Mourot (1995a, 1995b) referring to national differences in the recruitment into the top of class structure. The process that we have observed over time, however, signals a tendency towards convergence in French and German patterns of occupational stratification by education: in France, vocational qualifications have become more important; in Germany, access to the highest social class positions has become more selective by education.

Since the discussion in the first two panels refers to the male population, the third and last part deals with the question of gender-specific variation in patterns of occupational stratification by education. Table 6 (panel A and B) presents the results for German women in the early 1970s and 1990s respectively. The results of the corresponding models for French women are found in table 8 (panel A and B). Tables 7 and 9 indicate results of models that are pooled over the two historical time periods for German and French women respectively. Tables 10 and 11 refer to gender-differences in France and Germany, for both historical time points respectively (panels A and B). The parameters are derived from pooled models over the two sexes.<sup>19</sup> Table 12 shows national differences in women's returns to education for the early 1970s and 1990s (panel A and B). In our discussion we will not interpret every detail in women's pattern of occupational stratification by education. We concentrate instead on salient deviance from what we have observed for men and on national variations in women's returns to education.

### **Gender differences**

In 1970 Germany, women's pattern of occupational stratification by education does not show the skill-divide produced by the vocational qualification system to the same extent as it has been observed for men. In other words, we find smaller effects of vocational qualification as compared to general education for occupied women than for occupied men (see table 6, panel A). Compared to men, the intermediate general certificate (without vocational qualification) reveals to be relatively important for women (see table 10, panel A). Until the educa-

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<sup>18</sup> The pooled model (see table 5, panel B) no longer indicates any significant differences between Germany and France in the link between education and highest social class positions.

<sup>19</sup> In the pooled analyses, the variable 'sex' scores '1' for women and '0' for men.

tional reforms, the ‘Mittlere Reife’ was a typical track that (ambitious) women would choose in the German educational system (see Blossfeld 1985). It was neither usual for them to continue their education in upper secondary schooling nor in the vocational qualification system. The findings in table 10 (panel A) also reflect occupational sex segregation in the German labour market and, closely related to that, segregation in the dual system of vocational training: whereas men are primarily trained in industrial or crafts-related occupations, the few women who achieve vocational qualification then prefer commercial and clerical occupations. Consequently, we have a significantly higher chance of female holders of vocational qualification to get into routine non-manual occupations (Class III), but a higher chance for vocationally qualified men to be recruited into the skilled manual work force (Class V/VI).

Over time (see table 6, panel B) gender-differences have declined in Germany insofar as vocational skills as compared to general education have become more important for women. The ‘female’ effect of general education is still visible, however. Due to women’s increased participation especially in upper secondary schooling, this effect no longer appears at the level of the intermediate general certificate but at the level of the maturity certificate (see table 10, panel B). In addition, the effects indicating occupational sex segregation that we have observed in the early 1970s are still significant in the early 1990s.

In France, gender-differences in the returns to education are at both periods of time smaller than in Germany and strongly declining over the period investigated (see tables 8, 9 and 11). This finding renders support to our hypotheses of a less conservative gender ideology in French society, a very supportive family and employment policy allowing women stronger investments in their occupational careers, and smaller differences in women’s and men’s curricula specializations in the educational system. As a major consequence of the educational expansion, we therefore observe the same devaluation of secondary school certificates for French women as for French men (see table 9).

Introductory, we raised the question in how far the idea of a ‘societal effect’ can indeed be supported if one includes women in the investigation. According to our findings for the 1970s, it seems not appropriate to claim a ‘societal effect’ as the above mentioned studies in organizational and industrial sociology have suggested for that period: The German vocational qualification system shows no extraordinary effect for the female labour force participants. Consequently, German women’s pattern of occupational stratification by education reveals much similarity to the pattern found in France, for both men and women, where vocational education - relative to general education - is not as highly valued as for German men (see table 12, panel A). It is important to note, though, that the female population we investigate is a very selected one, especially in Germany. In 1970 Germany, women’s labour force partici-

pation has been a rather rare event (Brauns/Steinmann/Kieffer/Marry 1995).<sup>20</sup> The German labour market seems to be divided into a male and female segment which differ in their populations' background characteristics and aspirations and, accordingly, in the prevailing mechanisms of job allocation. Until the 1990s, female labour force participation has increased sharply in both countries. Since we observe today more regularity in women's labour force participation in both countries, the pooled model over French and German women (see table 12, panel B) indeed indicates almost the same pattern in cross-national dissimilarities as for men: Compared to French women, vocational skills are much more important for German women. Hence, the dual system produces a skill-divide in the manual and non-manual employment sector that is found among the male and the female labour force. We can therefore conclude, that the more regular female labour force participation becomes, the more we find national institutions shaping women's patterns of occupational stratification by education the same way as men's. According to these findings, it seems appropriate to conclude that a 'societal effect' or 'national' model of job allocation in fact exists.

## 6. Discussion

In this paper we have conducted a historical and cross-national comparison on the link between education and social class position in France and Germany. Our findings reveal important similarities between both countries in how education is linked to occupational position, but also salient and persisting dissimilarities: France and Germany are both countries where we find strong education effects compared to other countries (see Müller/Shavit 1997) and increasing importance of educational achievement over time. The patterns of occupational stratification by education, however, vary. According to the skill-divide produced by the vocational qualification system, the German labour market appears relatively rigid at the bottom compared to the French one. By contrast, it still reveals less rigidity than the French labour market in recruitment to the upper organizational tiers, where it allows for some even though definitely less mobility than in the early 1970s.<sup>21</sup> National differences in women's patterns of occupational stratification by education seem to have converged over time in direction of the differences found between German and French men. National institutions today show an ex-

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<sup>20</sup> A methodological issue should be noted that we are concerned with in our analyses. In a recent French-German comparison, we have shown to what extent women's labour force participation is dependent on their educational achievement and family status, how this has changed over time and varies cross-nationally (Brauns/Steinmann/Kieffer/Marry 1995). When analyzing female patterns of occupational stratification by education, we therefore draw on a population which does not represent a random selection of all women capable of gainful employment. Since we did not correct for this sample selection bias as proposed by Heckman (1976; 1979), interpretation of female patterns of occupational stratification by education (implicitly) needs to consider that our population is - depending on historical period and country - already selected according to specific characteristics.

<sup>21</sup> The upper segment of the German labour market reveals nonetheless to be relatively selective by education if one adopts a more encompassing international framework (see Müller/Shavit 1997).

tensive effect on the whole labour force, supposedly because female labour force participation became more 'regular' over the period investigated. Over time, we observed for France and Germany an increasing importance of educational achievement and, in some respects, a devaluation of lower level qualifications due to the expansion of higher education. As regards France, the evidence for a tendency towards increasing importance of education accompanied by displacement effects on low-qualified school-leavers, however, seems not as strong as we have expected it. This might be due to a selection-bias as a result of changes in labour market conditions: In contrast to the early 1970s, the early 1990s are characterized by relatively high rates of unemployment. In a recent paper (Brauns/Steinmann/Kieffer/Marry 1995) we have shown with the same data that education plays a central role for protecting individuals against unemployment, especially in France where school-leavers face a high risk of unemployment (see also Cléménçon/Coutrot 1995; Garraud 1995; Goux/Maurin 1997; Schwartz 1981; Guitton/Sibille 1992). Therefore, we assume that education indeed strongly increased in importance in France but that some of the effects of education are already absorbed at the threshold to the labour market. Those who succeed in finding a job, especially among the minor qualified, are already selected according to specific characteristics indicating their willingness and capability to do good work. Put in substantial terms, in the early 1970s competition among holders of different educational credentials happened within the employment system as a distributional conflict among more or less preferred jobs. In this situation, lower qualified school-leavers were allocated into the less advantageous occupational positions. In the early 1990s, following the educational expansion, lower qualified school-leavers are more and more displaced by the higher qualified, this time not only into less favorable class positions but to some extent also into unemployment, i.e. out of the labour market. Further research on the consequences of educational expansion needs to consider more advanced modeling techniques for adequately measuring the *encompassing* effect of education, and, accordingly, potential displacements effects over time. This implies taking into account the two-step process, involving first the effects of education on the opportunity to participate on the labour market and second the effects of education on the occupational achievements made once individuals have entered the labour market.

Further research also needs to elaborate on a more precise definition of what a close link between education and occupation means. Hierarchical grade achieved - as a vertical dimension - is only one indicator of educational performance that can be used in employment decisions (Breen/Hannan/O'Leary 1995). Employers might construct other or additional educational screens, such as horizontal differentiations in educational achievement for example. Horizontal differentiations can refer to different subject choices (social sciences as compared to engineering i.e.) and/or to differences among institutions as regards degree of exclusivity. In France, the educational reforms have given birth to a comprehensive curriculum allowing more than 60% of a generation to achieve the level of 'Baccalauréat'. At the same time, the

'Baccalauréat' became a highly stratified track. Not only the type of the 'Baccalauréat' (general, technological, vocational), but also the accomplished 'series' is today an important signal for school-leavers cognitive skills. To the same degree, the specific secondary school or higher education institution one has graduated from is an important screening device in France (Brauns 1996a). The German educational system is not horizontally differentiated to the same extent. Further research on France and Germany should more closely investigate national differences in how educational performance is precisely understood and used in employment decisions.



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**Table 1:**  
**Education and Social Class Membership for German Men 1970 and 1991**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1970 (N = 19641)</b>					
Intercept	-,35	,21	1,31	-,85	,56
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	1,29	3,26	1,01	1,30	1,92
2b (intermediate general qual.)	4,08	4,63	2,67	1,22	,60
2a (intermediate gen. qual. + voc.)	4,90	6,65	3,47	3,47	2,63
2c (maturity certificate)	5,93	7,05	3,58	3,58	1,79
3ab (tertiary certificate)	8,06	7,76	2,57	2,57	2,34
<b>Marital Status (relative to unmarried):</b>					
Married	,42	,16	-,21	,28	-,09 <sup>n.s.</sup>
<b>Model B) 1991 (N= 20491)</b>					
Intercept	-,65	,02 <sup>n.s.</sup>	1,12	-,44	1,02
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	1,63	3,37 <sup>n.s.</sup>	1,03	2,17	2,05
2b (intermediate general qual.)	1,11 <sup>n.s.</sup>	3,74	1,98	2,06	,83
2a (intermediate gen. qual. + voc.)	3,57	5,87	2,98	3,23	2,75
2c (maturity certificate)	4,42	6,44	3,01	3,38	2,11
3a (lower tertiary certificate)	9,12	9,72	4,61	5,09	3,48
3b (higher tertiary certificate)	9,96	10,43	4,57	5,54	3,31
<b>Marital Status (relative to unmarried):</b>					
Married	,16 <sup>n.s.</sup>	,02 <sup>n.s.</sup>	-,16	,02 <sup>n.s.</sup>	-,06 <sup>n.s.</sup>
Likelihood Ratio Chi Square (df)		Model A: 43.61 (25)		Model B: 83.29 (30)	
n.s. = not significant ( p >0.05)					

**Table 2:**  
**Education and Social Class Membership for German Men 1970 and 1991**  
**Pooled Model for Time Period (1970 as Reference Category)**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>1970 &amp; 1991 (N=40132)</b>					
Intercept	---	---	---		+
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)				++	
2b (intermediate general qual.)	-		-		
2a (intermediate gen. qual. + voc.)	-		--		
2c (maturity certificate)	-				
3ab (tertiary certificate)	+	++	+++	+++	++
<b>Marital Status (relative to unmarried):</b>					
Married			+		+
Likelihood Ratio Chi Square (df)		121,27 (50)			
-/+ p<= .05; -/+ p<= .01; ---/+++ p<= .001					



**Table 3:**  
**Education and Social Class Membership for French Men 1971 and 1991**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1971 (N= 5791)</b>					
Intercept	,08 <sup>n.s.</sup>	1,70	1,08	,59	1,01
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	1,69	1,83	,76	1,47	1,56
2b (intermediate general qual.)	4,69	4,17	3,35	1,84	1,75
2a (intermediate gen. qual. + voc.)	5,48	4,81	2,22	2,57	2,23
2c (maturity certificate)	8,19	7,25	4,37	4,22	2,90
3ab (tertiary certificate)	10,54	6,75	3,74	3,72	2,45
<b>Marital Status (relative to unmarried):</b>					
Married	,92	,51	,21	-,26	,44
<b>Model B) 1991 (N=5460)</b>					
Intercept	-,84	,25	,55	-,04 <sup>n.s.</sup>	1,15
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	2,41	1,37	,59	1,84	1,19
2b (intermediate general qual.)	3,78	2,64	1,57	1,57	,68
2a (intermediate gen. qual. + voc.)	4,07	2,83	1,73	2,66	1,81
2c (maturity certificate)	6,30	4,25	2,64	3,27	1,81
3a (lower tertiary certificate)	8,33	6,13	3,46	4,06	2,75
3b (higher tertiary certificate)	11,39	6,81	3,58	5,28	1,99
<b>Marital Status (relative to unmarried):</b>					
Married	,54	,06 <sup>n.s.</sup>	,06 <sup>n.s.</sup>	,28	,25
Likelihood Ratio Chi Square (df)		Model A: 28.09 (25)		Model B: 24.49 (30)	
n.s. = not significant ( p >0.05)					

**Table 4:**  
**Education and Social Class Membership for French Men 1971 and 1991**  
**Pooled Model for time period (1971 as Reference Category)**  
**(multinomial logit model contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>1971 &amp; 1991 (N=11251)</b>					
Intercept	---	---	--	---	
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)					--
2b (intermediate general qual.)		---	---		---
2a (intermediate gen. qual. + voc.)		---			
2c (maturity certificate)		--			
3ab (tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married		--		+++	
Likelihood Ratio Chi Square (df)		48,22 (50)			
-/+ p<= .05; -/+ p<= .01; ---/+++ p<= .001					

**Table 5:**  
**Education and Social Class Membership for Men 1970/71 and 1991**  
**Pooled Model for Nation**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1970/ 71 (N= 25432)</b>					
(Ref. cat.: France)					
Intercept		---		---	
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)		+++			++
2b (intermediate general qual.)			-		--
2a (intermediate gen. qual. + voc.)		+++	+++		
2c (maturity certificate)					
3ab (tertiary certificate)	-				
<b>Marital Status (relative to unmarried):</b>					
Married	-	--	---	+++	---
<b>Model B) 1991 (N= 25951)</b>					
(Ref. cat.: France)					
Intercept			+++	-	
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)		++	+		+++
2b (intermediate general qual.)					
2a (intermediate gen. qual. + voc.)		+++	+++		+++
2c (maturity certificate)		++			
3a (lower tertiary certificate)		+++	+		
3b (higher tertiary certificate)		++			
<b>Marital Status (relative to unmarried):</b>					
Married					-
Likelihood Ratio Chi Square (df)		Model A: 71.69 (50)		Model B: 107.78 (60)	

-/+ p<= .05; --/+ p<= .01; ---/+ p<= .001

**Table 6:**  
**Education and Social Class Membership for German Women 1970 and 1991**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1970 (N= 10713)</b>					
Intercept	-,40	,91	2,95	-1,02	,22 <sup>n.s.</sup>
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	2,12	3,32	2,07	2,31	,90
2b (intermediate general qual.)	3,87	4,05	3,49	3,09	1,51
2a (intermediate gen. qual. + voc.)	4,41	5,90	3,62	3,87	2,20
2c (maturity certificate)	5,30	7,04	3,54	3,53	2,55
3ab (tertiary certificate)	8,43	8,35	2,85	2,30	1,62
<b>Marital Status (relative to unmarried):</b>					
Married	-,34 <sup>n.s.</sup>	-,71	-,41	,26 <sup>n.s.</sup>	-,33
<b>Children (relative to childless):</b>					
Children	-,89	-,58	-,58	,48	-,39
<b>Model B) 1991 (N= 13743)</b>					
Intercept	-1,05	,78	2,41	-,93	,12 <sup>n.s.</sup>
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	2,42	2,57	1,56	1,44	1,38
2b (intermediate general qual.)	3,74	2,78	1,61	2,02	,81
2a (intermediate gen. qual. + voc.)	4,57	5,05	3,20	2,91	2,39
2c (maturity certificate)	5,98	6,12	3,48	3,81	2,83
3a (lower tertiary certificate)	9,26	8,73	4,22	4,86	3,61
3b (higher tertiary certificate)	10,84	9,42	3,93	5,36	2,58
<b>Marital Status (relative to unmarried):</b>					
Married	-,03 <sup>n.s.</sup>	-,21	,02 <sup>n.s.</sup>	-,05 <sup>n.s.</sup>	-,25
<b>Children (relative to childless):</b>					
Children	-,50	-,34	,00 <sup>n.s.</sup>	-,07 <sup>n.s.</sup>	-,19 <sup>n.s.</sup>
Likelihood Ratio Chi Square (df)			Model A: 135.36 (80)    Model B: 179.95 (95)		
n.s. = not significant ( p >0.05)					

**Table 7:**  
**Education and Social Class Membership for German Women 1970 and 1991**  
**Pooled Model for time period (1971 as Reference Category)**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>1970 &amp; 1991 (N= 24456)</b>					
Intercept	---	---	---		
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)			---	-	+
2b (intermediate general qual.)		-	---		
2a (intermediate gen. qual. + voc.)				-	
2c (maturity certificate)					
3ab (tertiary certificate)				+	
<b>Marital Status (relative to unmarried):</b>					
Married		++	+++		
<b>Children (relative to childless):</b>					
Children			+++	+	
Likelihood Ratio Chi Square (df)			296.2 (160)		
-/+ p<= .05; -/+ p<= .01; ---/+++ p<= .001					

**Table 8:**  
**Education and Social Class Membership for French Women 1971 and 1991**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1971 (N= 4281)</b>					
Intercept	,62 <sup>n.s.</sup>	3,28	3,56	1,77 <sup>n.s.</sup>	,98 <sup>n.s.</sup>
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	3,31	2,79	1,74	1,20	1,09
2b (intermediate general qual.)	5,57	4,25	2,86	2,17	1,29
2a (intermediate gen. qual. + voc.)	6,88	5,40	3,04	2,11	1,53
2c (maturity certificate)	12,44	10,97	6,63 <sup>n.s.</sup>	5,67 <sup>n.s.</sup>	4,68 <sup>n.s.</sup>
3ab (tertiary certificate)	14,33	10,01	5,37 <sup>n.s.</sup>	6,58 <sup>n.s.</sup>	6,04 <sup>n.s.</sup>
<b>Marital Status (relative to unmarried):</b>					
Married	-,24 <sup>n.s.</sup>	-,31	-,17 <sup>n.s.</sup>	,15 <sup>n.s.</sup>	,12 <sup>n.s.</sup>
<b>Children (relative to childless):</b>					
Children	-,08 <sup>n.s.</sup>	,08 <sup>n.s.</sup>	,06 <sup>n.s.</sup>	,81	-,04 <sup>n.s.</sup>
<b>Model B) 1991 (N= 4388)</b>					
Intercept	-,41 <sup>n.s.</sup>	1,59	2,97	-,07 <sup>n.s.</sup>	,49 <sup>n.s.</sup>
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	,52 <sup>n.s.</sup>	1,03	,83	4,50	,71
2b (intermediate general qual.)	1,54 <sup>n.s.</sup>	1,73	1,04	1,84	1,24
2a (intermediate gen. qual. + voc.)	1,08 <sup>n.s.</sup>	3,43	1,63	2,26	1,48
2c (maturity certificate)	5,98	4,73	2,81	3,47	2,61
3a (lower tertiary certificate)	7,36	8,00	3,66	4,60	3,91
3b (higher tertiary certificate)	13,34	10,68	5,95 <sup>n.s.</sup>	8,15 <sup>n.s.</sup>	6,46 <sup>n.s.</sup>
<b>Marital Status (relative to unmarried):</b>					
Married	-,23 <sup>n.s.</sup>	-,25 <sup>n.s.</sup>	-,18 <sup>n.s.</sup>	-,20 <sup>n.s.</sup>	-,05 <sup>n.s.</sup>
<b>Children (relative to childless):</b>					
Children	-,05 <sup>n.s.</sup>	,08 <sup>n.s.</sup>	-,08 <sup>n.s.</sup>	,50 <sup>n.s.</sup>	,09 <sup>n.s.</sup>
Likelihood Ratio Chi Square (df)		Model A: 99.86 (80)		Model B: 106.77 (95)	
n.s. = not significant ( p >0.05)					

**Table 9:**  
**Education and Social Class Membership for French Women 1971 and 1991**  
**Pooled Model for time period (1971 as Reference Category)**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>1971 &amp; 1991 (N=8669)</b>					
Intercept		-		-	
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)		---	---		
2b (intermediate general qual.)	--	---	---		
2a (intermediate gen. qual. + voc.)	---	---	---		
2c (maturity certificate)					
3ab (tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married					
<b>Children (relative to childless):</b>					
Children					
Likelihood Ratio Chi Square (df)		196.82 (160)			

-/+ p<= .05; -/+ p<= .01; ---/+++ p<= .001

**Table 10:**  
**Education and Social Class Membership for German Women and Men**  
**1970 and 1991, Pooled Model for sex**  
**(Multinomial Logit Model Contrasting to Class VIIab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1970 (N=30354)</b>					
<b>(Ref. cat.: Men)</b>					
Intercept.		+++	+++		
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)	+		+++	+++	---
2b (intermediate general qual.)			++	++	++
2a (intermediate gen. qual. + voc.)					
2c (maturity certificate)					
3ab (tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married	---	---	---		---
<b>Model B) 1991 (N=24234)</b>					
<b>(Ref. cat.: Men)</b>					
Intercept		+++	+++		---
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)			+++		---
2b (intermediate general qual.)					
2a (intermediate gen. qual. + voc.)					
2c (maturity certificate)			+		++
3a (lower tertiary certificate)					
3b (higher tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married	---	---			---
Likelihood Ratio Chi Square (df)		Model A: 91.77 (50)		Model B: 147.60 (60)	

-/+ p<= .05; --/++ p<= .01; ---/+++ p<= .001

**Table 11:**  
**Education and Social Class Membership for French Women and Men**  
**1971 and 1991, Pooled Model for sex**  
**(Multinomial Logit Model Contrasting to Class VIlab)**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1971 (N= 10072)</b>					
Intercept					
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)		+++	+++		-
2b (intermediate general qual.)					
2a (intermediate gen. qual. + voc.)					
2c (maturity certificate)					
3ab (tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married	- - -	- - -	- -		
<b>Model B) 1991 (N= 9848)</b>					
Intercept			+		
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)					
2b (intermediate general qual.)					
2a (intermediate gen. qual. + voc.)	-				
2c (maturity certificate)					
3a (lower tertiary certificate)		+			
3b (higher tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married	- -				
<b>Likelihood Ratio Chi Square (df)</b>		<b>Model A: 66.95 (50)</b>		<b>Model B: 69.35 (60)</b>	

-/+ p<= .05; --/++ p<= .01; ---/+++ p<= .001

**Table 12:**  
**Education and Social Class Membership for Women**  
**Pooled Model for Nation 1970/71 and 1991**

	I	II	IIIab	IVabc	V, VI
<b>Model A) 1970/ 71 (N= 14835)</b>					
(Ref. cat.: France)					
Intercept		-		-	
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)				+++	
2b (intermediate general qual.)					
2a (intermediate gen. qual. + voc.)	-			+++	
2c (maturity certificate)					
3ab (tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married					-
<b>Children (relative to childless):</b>					
Children	-	---	---		-
<b>Model B) 1991 (N= 18131)</b>					
(Ref. cat.: France)					
Intercept					
<b>Educational Level (relative to 1ab):</b>					
1c (completed comp.school. + voc.)		++	+++		+
2b (intermediate general qual.)			+		
2a (intermediate gen. qual. + voc.)	+	++	+++		++
2c (maturity certificate)		+	+		
3a (lower tertiary certificate)					
3b (higher tertiary certificate)					
<b>Marital Status (relative to unmarried):</b>					
Married					
<b>Children (relative to childless):</b>					
Children		-			
Likelihood Ratio Chi Square (df)		Model A: 229.94 (160)		Model B: 286.71 (190)	

-/+ p<= .05; --/++ p<= .01; ---/+++ p<= .001