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Education and Labour Market Entry in Germany

**Walter Müller, Susanne Steinmann, Renate Ell**  
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**Walter Müller**  
**Susanne Steinmann**  
**Renate Ell**

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*Walter Müller ist Inhaber des Lehrstuhls für Methoden der empirischen Sozialforschung und angewandten Soziologie der Universität Mannheim und Leiter von Projekten zur Bildungsentwicklung und Klassenbildung im Arbeitsbereich I des MZES.*

*Renate Ell ist wissenschaftliche Mitarbeiterin am Lehrstuhl für Methoden der empirischen Sozialforschung und angewandte Soziologie, Prof. Dr. W. Müller, Universität Mannheim.*

*Susanne Steinmann ist wissenschaftliche Mitarbeiterin am Mannheimer Zentrum für Europäische Sozialforschung (MZES), Universität Mannheim.*

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*Walter Müller is Professor of Methods of Empirical Social Research and Applied Sociology at the University of Mannheim. He is responsible for projects on educational systems and class formation within the Research Department I of the Mannheim Centre for European Social Research (MZES).*

*Renate Ell is a research fellow at the chair of Methods of Empirical Social Research and Applied Sociology, Prof. Dr. W. Müller, University of Mannheim.*

*Susanne Steinmann is a research fellow at the Mannheim Centre for European Social Research (MZES), University of Mannheim.*

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# Education and Labour Market Entry in Germany

Walter Müller, Susanne Steinmann, Renate Ell

In studies of labour market organization it is common to emphasize specific characteristics of the German education and training system and its relationship to the labour market. In their seminal study Maurice et al (1982) describe the German labour market as patterned in a *qualificational space* in contrast to the organizational space of France. Using the vocabulary of labour market segmentation, but relating to a reality conceived very similarly, Marsden (1990) regards Germany as a typical case of a labour market, which is mainly *segmented along occupational lines* in contrast to labour markets mainly segmented between firms. The particular strength of occupations as lines of labour market segmentation has been demonstrated in several publications from the Berlin life history study (see Blossfeld/Mayer 1988; Mayer/Carroll 1987). Related to these characterizations it is also a common topos of research that in Germany labour market position is predicted rather strongly by the level and type of education a person has received. In the present contribution we mainly relate to this last assertion and examine whether it is still valid in the light of data relating to recent developments.

We begin by discussing the specific historical and institutional context in which the German education-labour market relationship has developed. We then derive several hypotheses concerning this relationship. In the empirical section of the paper we test these hypotheses studying three dimensions of labour market outcomes: labour force participation and unemployment; level of prestige obtained in first job; and class position of first job. We relate these outcomes to education and social background characteristics of labour force entrants and examine for both men and women how and to which extent these relationships have changed during the last decades marked by several major macrostructural changes relevant in this context: the increasingly higher education of labor market entrants; the increasing labor force participation of women; the transition into an economy with lacking jobs and high levels of unemployment; and the transformation of the occupational structure from industrial work into services.

## 1. The institutional context of education and work in Germany

The education-labour market relationship is conditioned by characteristics of the educational system and characteristics of labour market institutions. Both are important for understanding education-job matches. We organize the discussion by different sections of education and vocational training and discuss specific characteristics of labour markets and their organization that are of interest in this context. In characterizing the educational system we draw on the two dimensions of standardization and stratification proposed by Allmendinger (1989). But in addition we also underline its high degree of occupational orientation and differentiation. We also give a broad overview of how in various sectors of education specific education-labour market linkages have evolved in the historical development of education and work. We concentrate the discussion on

secondary schooling, vocational training, and tertiary education, although other important developments such as adult education or the emergence of a large variety of very specific training programs within and outside firms would also merit attention.

### *1.1 Secondary schooling in Germany*

The German system of general education of this century is characterized by its tripartite structure. At the age of 10 pupils of most German schools have to opt for one of three separated tracks differing from each other in academic orientation of the curriculum and in demands on intellectual abilities. The 'Gymnasium' is the institution traditionally intending to lead children to the 'Abitur' and from there into the universities. The 'Realschule' was originally designed to prepare children for the more demanding intermediate technical and administrative occupations. After a total of ten years of schooling it provides the 'Mittlere Reife' exam which signals an educational standard clearly below that of the Abitur, but also substantially above that of the 'Hauptschule'. The latter is attended by the educationally least ambitious pupils who usually stay in this type of school until the end of compulsory schooling. In particular in the 1970s several attempts have been made to dissolve this rigid structure and to integrate the tracks into a more comprehensive system of secondary education. However, except for a small proportion of schools (concentrated in some of the federal states ruled by a long tradition of social democratic governments) the tripartite structure still exists and continues to channel the children through the school age, each track providing a distinctive educational experience. Although some provisions have been made to facilitate transitions between tracks, they remain highly segregated. Upgrading hardly occurs; downward moves are more common. Germany belongs to those countries in Europe whose systems of secondary education have changed the least in the decades since World War II.

In spite of the continuation of the organizational and curricular differentiation between the educational tracks, change occurred in mainly two respects: Reforms have attempted to narrow the gap between the Hauptschule and the other tracks through prolongation of compulsory education from eight to nine years of schooling and by introducing additional subjects into the curriculum (eg foreign languages). Second, in their educational choices, an increasing number of pupils opted against the Hauptschule and switched to the less dead end Gymnasium and Realschule. While up until the 1970s the Hauptschule provided education for the majority of children, until today it more and more has become the school for foreigners and the educational 'failures' among the natives (heavily burdened with problems of discipline and violence). This image increases the social disadvantage of those who leave the educational system from the Hauptschule, which can be seen, for instance, from the growing difficulty of graduates from the Hauptschule to obtain an apprenticeship slot in attractive occupations or firms.

In sum, no basic change has occurred in Germany's system of *secondary* education that would call into doubt Allmendingers (1989b) rating of it as highly *stratified*. It is also still valid to characterize it as *standardized*, even if in the years since the 1970s the variation concerning curricula and school organization has increased - and more variation has been introduced through the 'Neue

Länder'. In spite of the different approaches to schooling among the federal states, who have the legislative competence in educational affairs, the coordinating educational boards were able to ensure relatively similar examination standards. In all Federal States there remain clear distinctions between school leavers from the Hauptschule and those having obtained the Mittlere Reife exam or the Abitur. In terms of prospects for favourable opportunities for vocational training and subsequent occupational careers the developments in the participation rates in the various tracks probably contributed to increase rather than decrease the gaps between the school leavers from the different tracks.

### *1.2 The German system of vocational training*

Continuity rather than discontinuity is also a mark of the development of Germany's system of vocational training. The core of vocational training in Germany is its so-called dual system of apprenticeship. It basically evolved from the tradition of training and personnel recruitment in the guilds and developed into an institution which until today moulds in determining ways Germany's educational system and its relationship to the labour market. This could only happen under the influence of various specific historical conditions. Among the most important were: In Germany the guild system was not abolished like in France, where the Revolution and the reforms by Napoleon swept away, together with the old order, its traditions of vocational training. On the contrary, the laws regulating the duties of the guilds in the German states in the early 19th century emphasized the obligations of the guild masters for a solid training of the apprentices in their craft or their art (Stratmann/Schlüter 1982). Already in that time it was regulated that the master was obliged to enable his apprentice to participate in school (parallel to the training at the workplace), where he should improve in the more general skills of reading, writing, mathematics, (technical) drawing, and religion. Evidently, this was the beginning of the dual system: training for the practical skills on the workplace and learning of the more formal abilities in school. The final enforcement of the 'Berufsschulbesuch' (compulsory obligation to enroll in a vocational school) has been stated in the 'Reichsschulgesetz' in 1938.

A further crucial step in the development of the apprenticeship system was its adaptation by the industry. This was most straightforward in those sections of industrial production which grew out from craft production and where craft masters continued to employ journeymen and to train apprentices. In other industries, like in mining, rather early a craftsman-like system of training evolved. In still others earlier patterns of in-firm training on the job for semi-skilled labour (like in the heavy metal or in the chemical industry) sooner or later also developed into the apprenticeship system for skilled workers. Finally, the system was adopted almost everywhere where new kinds of qualified labour was needed, as in the various modern industries, in commerce, private and public administration, financial, social and other services, and even in the civil service. The German version of the apprenticeship system has various peculiarities which contribute to its functioning in efficiently channeling individuals into specific segments of the labour market (Blossfeld 1992; 1994):

1. It incorporates a large fraction of each entry cohort. Compared to the inter-war period and the first post-war decades it has even increased in the quantitative coverage. While in the 1950s approximately 50 per cent of a cohort had accomplished an apprenticeship this figure rose close to 70 per cent in the 1980s, mainly due to the increased participation of women in apprenticeships (according to Tessaring, 1993:136, in 1990 67 per cent of men and 63 per cent of women in the age group between 16 and 19 years entered a vocational training in the dual system). These simple figures demonstrate that the dual system became the primary instrument of providing youth with vocational qualifications. Even if tertiary education strongly expanded as well, the crucial place of the apprenticeship system is visible from the fact that increasing proportions of school leavers, entitled to go into tertiary education, take this step only after having accomplished an apprenticeship (for risk aversion and as a kind of safety net; Büchel/Helberger 1994). No serious attempts have ever been made to replace the apprenticeship system by other forms of vocational training.

Several *school-based forms for providing vocational qualifications* emerged, but hardly undermined the apprenticeship system until today. At least three types of them have to be distinguished: A real alternative to apprenticeships mainly developed in some areas of business and social services, in particular in areas mostly chosen by women: secretaries, kindergarten nurses, medical aides, and other health related occupations. The second kind is a temporary substitute for situations and cases in which the apprenticeship system has deficits: for school leavers who are unable to find an apprenticeship place, because of lacking supply of such places (most important in the early 80s when the school leavers from the baby-boom birth cohorts met an economy in crisis), or for school leavers who lack abilities (in this case the vocationally oriented school programs mainly attempt to provide the qualification preconditions for entry into an apprenticeship). The third kind are training programs which follow and build up on successful accomplishment of an apprenticeship. Some of them stand in the tradition of acquiring a craft-mastership or, in more modern fields, they support careers from a skilled worker to a highly qualified technician. It is interesting to note that even in large industrial firms becoming a foreman or a master is not a simple matter of training in the job or promotion within a firm internal labour market. It generally presupposes a successful completion of an apprenticeship and an additional formal examination which is to be prepared in special training institutions, taken by an official body of examiners.

2. In contrast to apprenticeship systems of other countries, the German system has a relatively high degree of standardization; at least there exist a number of formal rules and controls pressing for standardization. There are norms for content and length of training, formalized examinations, standards for workplaces that are licensed for training, and required qualifications for persons responsible for the training. However, in practice, important variation exists in the quality of training provided, depending on characteristics of the firm, the workplace, and the persons responsible for training, as well as on the organization of training, and the availability of special training workshops in the firm (see eg Franz/Soskice 1994).

3. The apprenticeship system is very strongly horizontally segmented. In 1950 it included particular apprenticeships in more than 900 different officially recognized occupations. Since then many



occupations became obsolete in the course of the transformations of the economy and apprenticeships in these occupations disappeared. Reforms also successfully attempted to concentrate the training - focusing on polyvalent key qualifications in a smaller number of specialties. However, in 1970 still 600 different apprenticeships existed and the present number of officially recognized and formally enacted training regulations for specific occupations is slightly below 400.

4. As Marsden (1990) has aptly analysed, the evolution and persistence of an apprenticeship system, in particular the recognition across firms of the qualifications produced in apprenticeships, depend on a number of conditions. The German system includes many of the elements that contribute to guarantee the wide recognition of qualifications received, the value of credentials as a token on the labour market, and a flexibility within the vocational training system for innovations and adaptations to changing demands of the market. Some of them are: both employers and worker representatives (mainly unions) are strongly involved in a corporatist negotiation system with the state concerning the definition of curricula and other training requirements, the control of training, and the examination and certification process. The chambers of trades, industry, and commerce have the authority, delegated to them from the state, to rule and control details of the training and certification process. Another important aspect is a kind of built-in feedback mechanism: As the labour market is built on the notion that qualifications are to a large extent acquired through general training before entry into regular employment and not through in-firm training on-the-job, there must be a strong pressure to constantly adapt the production of qualifications to the changing needs. The German system of industry unions, who negotiate work contracts on an industry wide extension, strongly presses for standardized rules for personnel recruitment, job allocation, and pay. As union membership is dominated by skilled workers, there are strong pressures to guarantee the pay-offs for the training investments of their members by exclusionary practices, by making job allocation and pay scales dependent on educational credentials (Streeck/Hilbert 1990; for consequences of industry wide coordination see Soskice 1993).

5. The general availability of occupationally specific skills on the labour market induces employers to organize work in a way that the most profitable use of available skills can be made (without additional training costs). They attempt to recruit workers with fitting skills on their jobs. Workers, on the other side, who have invested several years in acquiring skills, should be motivated to find a job that meets their qualifications. Indeed, there is a high probability that a worker moves into a regular job with the same employer after completion of the apprenticeship. According to recent data the average proportion of such smooth transitions from apprenticeship to regular employment is 52,1 per cent for male apprentices (Bender/Dietrich 1994). Although the likelihood of smooth transitions varies by employer characteristics, occupational specialty, (regional) level of unemployment and other conditions (Soskice 1993) the German version of the vocational training system contributes to relatively low levels of early work life mobility for finding a job matching with the qualifications of the worker (Allmendinger 1989a). The strong occupational specialization of apprenticeships and the expectation of employers to find workers with the required qualifications reinforces the occupational segmentation of mobility opportunities of individual workers. Generally it will restrict employment opportunities of individual workers to a relatively narrow span of jobs.

6. While the proportion of a school leaver cohort who accomplished an apprenticeship has increased in the post-war decades, in the 1980s the transition from school to apprenticeship was somewhat less smooth because of the above mentioned imbalances between supply and demand. But, in principle, not much has changed in the pattern that apprenticeships are taken up as a first step into the labour market and that this is done immediately after leaving school. The school level, from which the transition to apprenticeship is made, has continually increased. While in the 1950s the transition into apprenticeship was mostly made after completion of compulsory education at the lowest track of general schooling (Hauptschule), later the school requirements were raised to the Mittlere Reife-exam, and beginning with the 1980s it became also more common to enter an apprenticeship after completion of full secondary education. Less and less apprenticeships have been vocational qualifications combined with only minimal schooling. As they are added more often to higher levels of general education, the value of these higher levels of general education 'pure' (without an apprenticeship added) will decrease more and more.

7. In contrast to other countries in Germany the use of formal educational criteria even extends to large parts of self-employment. In particular in many crafts the establishment of a business on one's own account, its registration in official lists, or the permission to carry out specific types of work is dependent on having acquired the craft-masters qualification diploma.

### 1.3 Tertiary education

The third major section of the German educational system of present day, tertiary education, also is marked with specific features that affect its linkages with the labour market.

1. In contrast to countries with a well-marked differentiation of institutions of tertiary education (US, England, France) the German state universities present themselves as rather homogenous. Neither are there universities with a clear elite status nor ones that could be rated as sub-standard. Differentiation exists, though generally not between universities at large, but rather in a different standing of different disciplines within institutions and a varying quality of disciplines across institutions. The university system is *unstratified*. At the same time it is pressed by legal and administrative provisions to provide *standardized* educational products throughout the nation. Thus, given a university degree, occupational prospects should turn out to be rather homogeneous, without being disturbed much through self-selection of students, differences in the quality of education or through the public recognition of an institution's rank in a hierarchy of excellence. Variation between institutions certainly exists, but much below the degree of variation existing in countries with a system of elite institutions. Up until the 1970s rather university education at large had an exclusive status (as only small proportions of a cohort reached it) and, together with the relatively homogenous quality of training, it has provided its students with quite distinct career prospects with only minor variation for graduates from different institutions.

2. Together with the development of 'Fachhochschulen' (colleges of higher education) since the mid-1970s major changes took place in the area of tertiary education. Before, with the exception of colleges for the training of teachers, hardly any other institution of tertiary education existed besides the classical and the technical universities. But then, with the increasing demand for higher education, the Fachhochschulen at the lower level of tertiary education expanded very quickly. The repercussions that result from the creation of the Fachhochschulen on the system of vocational training and on the career prospects of graduates from the dual system are of great relevance. The Fachhochschulen replaced the earlier schools of advanced vocational training (eg engineering schools or schools for social work). While studies at the latter typically served as a means to upgrade apprenticeship-based qualifications (Müller 1978), the formal entry requirements to the Fachhochschule have been considerably raised and are much more school-based. It seems that the Fachhochschule has significantly weakened a workplace oriented and step by step approach of acquiring higher level occupational qualifications.

3. As is true for the lower sections of education, the German system of tertiary education also has a marked *occupational orientation*. In contrast, eg to the US, where curricula are generally broad and often of a rather general orientation, most of the curricula in German tertiary education are supposed to prepare students for specific professions and careers. In the Fachhochschule the occupational orientation is even more pronounced than at university. Germany is unique in having created institutions at the level of lower tertiary education which are modelled comparable to the dual system of lower level vocational training ('Berufsakademien'). The university system also shows many marks of occupationalism. Many professional organizations, covering disciplines taught at universities, include university professors and the graduates who work in the profession for which they have been trained. The close links between university education and occupational destination can be traced more specifically for the civil service and the professions. Besides positions as clergyman and teachers for higher secondary education, both, the civil service and the traditional professions have provided for long time the largest number of the job opportunities for university graduates<sup>1</sup>.

4. Very early in the 18th century, Prussia, but other German states as well, established for its civil service an elaborated system of recruitment and promotion based on educational certification. Venality of offices was never as common in Germany as it has been in France, and it was checked much earlier through examination rules. „The rules of recruitment for the public service were laid down in concise terms, and the king himself looked to it that they were strictly applied“ (Marx 1935: 174). For the training of qualified personnel for the civil service the kings established in German universities a special faculty, called 'Staatswissenschaften'. This faculty comprised the disciplines candidates had to study before they could be admitted into public offices (mainly law, economics, political arithmetic). Training for the Civil Service included both academic studies at the university and - normally unpaid - in-service training (some kind of an apprenticeship). Besides the university exam the candidate had to pass an examination at the State-Examination Board following the in-service training.

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<sup>1</sup> For a more detailed discussion see Müller (1994).

The recruitment to the lower rank positions of the German Civil service was not as precisely ruled as for the higher ranks. Yet, according to the principle 'no office without proper examination' already beginning with the 19th century, the successful pass through examinations - varying according to the type of office - had been requested as condition of access to office. In the general case, no special education beyond basic school was required, but the candidate had to prove his ability for service by a 'Dienstprüfung' to be passed after an extended period of service training. However, already in 1827 a full gymnasium education certified by the maturity exam was required in order to be admitted into the intermediately ranked offices of secretaries and assistants (Henning 1984: 127). Although the requirements of such far reaching education were reduced later, this was an important element in perfecting the German civil service as a bureaucratic structure in which several hierarchical levels and career lines are tightly bound to a system of specific credentials narrowly defining recruitment and promotion procedures.

This kind of institutionalization is in substantial contrast to the English development, where the civil service was much more 'amateurish', less professionalized, and recruited among loyal and reliable persons in the various sections of the noble and bourgeois middle and upper classes. Rather than establishing universities for the training of the civil service, the Crown relied on men who had acquired their competencies through the exercise of private businesses. The development in Germany also stands in clear contrast to France, where the State established the 'Grandes Écoles' for the training of its personnel. The Grandes Écoles in France were reserved almost exclusively for the training of the civil service. The German institutions of higher education „were never as exclusively confined to public servants as their French counterparts“ (Fischer/Lundgreen 1975: 555). When Prussia in 1879 founded the Technische Hochschule in Berlin this institution was expected to serve both the needs of the military and the civil service, as well as the growing interests of industry for qualified technicians and engineers.

5. Similar to the civil service, professions also developed in a specific way in Germany. As professions tend to claim a monopolistic jurisdiction for carrying out specific tasks in the division of labour on the base of a specific body of complex knowledge and/or abilities, it is of interest, in which ways professional identity and legitimization for professional claims is linked to education in different countries. In England, acceptance into a professional association, which had their own varying training practices, was - according to Abbott (1988) - the crucial step to become a professional. In Germany, on the contrary, the development of professions is - as in the case of the civil service - tightly bound to university education and state controlled examinations. The universities were (and still are) responsible for the general educational part of training and certification. The state administered and certified the practical side in the form of Referendariate. The early professions - lawyers, medical doctors, clergy and Studienräte<sup>2</sup> - were trained in this way, and most of them later employed by the state as civil servants. As Abbott (1988:197) puts it succinctly: „State certification, rather than association membership ... identified professionals in Germany, a situation that persisted long after the appearance of the (professional, the authors) associations.“

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<sup>2</sup> This title for the German secondary school teachers is telling as it depicts the academic studies orientation of this profession as well as their civil service status.

With the foundation of technical universities and the gradual opening of the universities to new fields, other professions (architects, engineers, apothecaries, dentists, etc) became also part of the regime of university certification and state recognition. The fact that the system of higher education was neither hierarchically segmented nor regionally concentrated contributed to broadly similar educational requirements for various professions throughout the country. The patriarchal German state considered it as its duty to ensure and control the proper pursuit of professions by a strict examination system. With the strong involvement of the state in the professionalization process the professional associations developed into a corporatist direction, in which they partly act with authority delegated from the state.

An interesting question is in which way professional work is integrated into the work organization of large firms. Such firms have their own organizational strategies of division and control of labour which need not correspond to the framing of work according to the set-up of established professional occupations. However, the stronger the established professional identities and the stronger the professional organizations the more work organizations will have to shape the division of labour according to established professional jurisdictions. The more the educational institutions have organized their activities towards teaching, training and certifying individuals for established professions the more again work organizations will have to recruit professionally oriented personnel. On the contrary, work organizations will be more able to shape work structures according to their own preferences and utilities if the products of the educational system are less professionalized.<sup>3</sup>

One should expect that a constellation with a strong education-profession link (as in Germany) would also strengthen the education-class link in large work organizations. Members of a profession will be employed under similar conditions because of the highly typified characteristics of their labour capacities and their belonging to professional associations whose very policy must be oriented towards demanding equal treatment for their members.

6. Finally, a part of the distinctiveness of the German development in university education and its relations to the labour market and society at large can be grasped from two terms, equivalents of which hardly exist in other languages: 'Akademiker' and 'Bildungsbürgertum'. Both social realities designated by these terms are intimately linked to education and the fact of their representation in the public language by specific terms underlines their social significance. *Akademiker* is a social category which includes all persons who have successfully completed an academic training. To belong to this category used to be of considerable significance for the social identity of a person. *Bildungsbürgertum* refers to a particular fraction in the German bourgeoisie which included the social groups distinguished by higher education (not necessarily linked to a university degree) as opposed to the 'Wirtschaftsbürgertum' (Lepsius 1987). This class was strongest between the second part of the 18th up to the end of the 19th century, when it started to lose its role and finally lost any significance through the Nazi regime. It is still debated, to which extent the *Bildungsbürgertum* constituted a clearly separate status group in the German society (see the vol-

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<sup>3</sup> Abbott (1988:154) exemplifies this point for the US very clearly.

umes edited by Conze/Kocka 1985 and Kocka 1987). However, there is no doubt that in Germany education played a clearly stronger role than in other countries in constituting a network of families which were identified through the close links to the universities and to the higher civil service and which conceived themselves as a distinguished group in social life .

## 2. Hypotheses

From the previous discussion of the institutional characteristics of the German educational system and its links to the labour market it can be summarized that the German educational system is highly standardized at all important levels and types of education. In particular the system of secondary education is also highly stratified. The traditional system of tertiary education has been rather unified and scarcely stratified. By the development of a second layer in tertiary education (with the new Fachhochschulen as an institutional setting clearly separate from the universities) the system of tertiary education also moves into a more stratified direction. In addition, access to tertiary education has been relatively restricted, not by special selection procedures at the point of entry into tertiary education, but by the rigid and highly stratified structure of secondary education. In consequence, tertiary education has been an area of exclusion and high privilege.

At all levels the educational system is occupationally oriented, most strongly in the area of vocational training at the post-compulsory and at the secondary level. Except for those, who follow the direct pathway through the Gymnasium to tertiary education, the large majority of all school leavers pass through the vocational training system, most of them through the apprenticeship system. The latter, through its dual organization and several mechanisms of involvement of employer representatives and other collective actors concerned with the labour market, enforces especially close links between the training obtained and the occupationally segmented structure of jobs.

Having these conditions in mind, we now derive several hypotheses concerning the significance of education in Germany both for chances of finding employment and for prestige and class position in first job.

### *2.1 Education and unemployment*

Given the German institutional context we expect two kinds of consequences for unemployment risks: one concerning their distribution over age groups and the other concerning their relationship to type and level of education.

From the dominance of the occupational type of labour market segmentation, where young workers who enter the labour market have previously acquired standardized and generally recognized skills and qualifications, we can expect that entrants into the labour market have a relatively good position in the competition with workers already employed. Training costs for employers will be

limited and those, who completed an apprenticeship, have often already stayed several years with the employer during the apprenticeship. In the competition for jobs they are more or less insiders like other workers. Under such conditions it should be much easier for young workers to find regular employment than under conditions of the dominance of firm internal labour markets, where employers have to expect higher training costs for new recruits, where young workers generally will be outsiders, and where the insiders should have higher incentives to protect themselves from outsiders, because their firm specific skills are less transferable than in occupational labour markets. As a consequence, unemployment risks should be less concentrated among youth and entrants into the labour market in Germany than in countries, whose labour markets are more firm specific.

A strong occupational segmentation of qualifications and labour markets on the other side implies that employers, who use qualificational criteria in recruitment decisions, will use both the level of qualification and the occupational fit of the training for the job when they screen and rank job applicants. The likelihood to be recruited will not only depend on the level of qualification but also on supply-demand balances in specific occupational fields. In the German context therefore the level of qualification should be a less determinative factor for unemployment risks than in countries with a less occupationally segmented structure of labour markets.

As in Germany only a small proportion of entrants into the labour market did not successfully accomplish at least a vocational training beyond compulsory education, these 'unqualified' tend to be judged negatively in terms of trainability, work motivation, discipline, and productivity. Therefore, having received a vocational training is a considerable advantage in the competition even for jobs in which the specific training is not functionally relevant. This 'extra-functional significance' (Dahrendorf 1992) of vocational training' will affect unemployment risks. Those who have obtained vocational training should be in a clearly better position than those who enter the labour market with but compulsory schooling.

## *2.2 Education and prestige/class of first job*

Given the German institutional context we should expect strong impacts of educational qualifications on the quality of jobs accessible on the labour market. Each type and level of education should distinctively affect prestige and class position of first job. In particular, educational criteria should also strongly determine access to skilled vs unskilled manual work. This is one of the main areas in which a system dominated by occupational labour markets should differ from systems structured more along firm internal labour markets.

Because of the high level of credentialism in access to jobs (as concerns both the level of general education obtained and the occupational specialty of vocational training), we expect that the association pattern between educational qualification and job obtained will be quite similar in different population groups. Under German conditions we therefore expect rather limited gender differences in the effect of education on job placement. This should be particularly true at the stage of

entry into employment. Whether stronger gender differences evolve in occupational careers will not be studied here. Further consequences for gender differences that we do not investigate here but which should be of particular relevance in an occupationally segmented system, should derive from gender-specific educational *choices* rather than from *effects* of the chosen education.

Considering the strong occupational differentiation of apprenticeships we expect job placement to be dependent on the occupational specialty of the apprenticeship taken. We are only able to distinguish between apprenticeships in agricultural, craft, and trade occupations on the one hand, and apprenticeships in administrative, commercial, social and other services on the other hand. We expect that this distinction strongly affects access to manual working class jobs on the one side and routine non-manual or service class jobs on the other side.

From the institutional developments we have sketched we do not expect that at large differences in returns to different kinds and levels of education have declined over time. Rather there are indications that they might have increased, for instance as a consequence of the more significant institutional differentiation at the tertiary level (universities, Fachhochschulen). However, we may find changes in the relative labour market value of specific educational credentials. In particular several developments can be observed which should press on the value of the Abitur. With the increased significance of the lower level of tertiary education the competitive advantage of the Abitur may decline. As more persons with an Abitur enter an apprenticeship, the value of the Abitur may develop towards the typical destination of apprenticeship holders. Particularly at entry to the labour market, the type of apprenticeship will determine job prospects, and not the level of general education obtained before.

As to changes of educational effects over time, other than institutional changes have to be considered as well. Modernization theory predicts stronger effects over time (Treiman/Yip 1989). Among others Jonsson (1993) has vigorously objected these expectations. For Germany, Blossfeld (1985) and Handl (1986; 1994) have argued and presented empirical evidence that educational expansion leads to reduced competitive advantage of tertiary education and to displacement of the lesser qualified. These findings are contested by Däumer (1993). The following analysis is not designed for deciding between the latter competing hypotheses, because this would need considerable additional elaboration. By including the time component into the analysis we mainly intend to verify whether the peculiar characteristics of the German pattern of education-labour market links discussed in the literature persist across these developments, and to provide the empirical basis to find out in which way Germany remains peculiar, if it is compared to the other countries studied in the cooperative project.



### 3. Data and variables

#### 3.1 Database

The data used in the following analyses result from a database, in which two different types of surveys representative of households in West Germany have been compiled:

1. The German General Social Survey (ALLBUS) 1984, 1994 with N = 5346;
2. The German Socio-Economic Panel (SOEP), wave 1986 with N = 8023.

These surveys use practically identical procedures for the collection of the information from which the variables included in the present analyses are derived. The surveys are also based on similar sampling procedures. In an earlier analysis (Müller/Haun 1994), in which we used a compilation of ALLBUS and SOEP for the study of social inequality in educational transitions, we found only negligible differences in results produced by ALLBUS and SOEP. For the present analyses we also have no indications that the surveys should systematically differ in their results.

Only German citizens are included in the following analyses. Due to selective refusal rates in survey participation, the working classes are slightly underrepresented in all of the surveys. However, no weighting procedures have been applied. We excluded all cases with missing values in any of the variables used from the analyses; furthermore some cases for which - based on tests of consistency and plausibility - we have serious doubts about the reliability of information contained in the datasets. Total number of cases included in the analyses is 7743.

#### 3.2 Definition of Variables

*Cohort/Period:* We define cohorts according to the year of entry to first job (see below) and then aggregate years of labour market entry into periods of decades or into an entry period before 1960 and an entry period 1960 or later. About 9 per cent of the cases entered first job before 1930; 0.3 per cent entered before the first world war. The period before 1960 is clearly more heterogeneous in terms of economic and labour market conditions than the period after 1960. Economic crises and breakdowns (Great Depression, war conditions and the economic collapse after World War II) have affected labour market entrants much more seriously than even the high levels of unemployment in some of the years since 1980.

*Social Class:* For father's class and class of respondent's first job the German version of the EGP coding schema developed in the CASMIN project is used (Erikson/Goldthorpe 1992).

*Prestige:* Prestige is measured with Wegener's (1985) Magnitude Prestige Scale (MPS). This scale rather than the Treiman scale is used, because it is a national scale, more adequate to the specific prestige hierarchy in Germany, and also because it seems to have better measurement qualities than Treiman's international prestige scale. The scale extends within the range 20.0 to 186.8.

*Education:* The variables are coded according to the CASMIN educational classification (König/Lüttinger/Müller 1988). Due to small numbers of cases some of the categories are used in a collapsed version. For *parental education* the higher code for either father or mother is used (according to the sequence 1ab, 1c, 2ab, 2c, 3a, 3b).

*Type of vocational training:* In order to measure effects of the occupational field of vocational training we have carried out special analyses (the results of which are generally not documented in detail) in which we use a series of dummy variables indicating the specific kind of vocational training respondents have obtained. We distinguish between the following types:

- *craft or trade:* apprenticeship in a craft or a trade occupation;
- *commercial:* apprenticeship in a commercial or other service occupation;
- *other:* courses for master examinations in craft or industry or technical colleges and various other courses and curricula in particular for secretarial occupations; health occupations or kindergarten nurses.

*First Job:* The wordings to collect information on first job vary only slightly in the different surveys. In each survey the respondent is first asked to tell the age (or the year) in which he started for the first time a regular employment as his main activity ('hauptberuflich erwerbstätig'). Because in Germany an apprenticeship is often conceived as employment, respondents were asked to exclude apprenticeships or other forms of vocational training from consideration. In the SOEP-survey the respondent is explicitly asked the first employment *after* vocational training.

We assume that first job is reasonably well measured, excluding casual work of short duration (like jobs in school vacation or side-employment of students). However, a more serious problem is that we do not know for sure whether a person re-entered the educational system after his first job and only then reached the educational level which is measured in the surveys. In such cases a respondent might have a higher educational code than the code which corresponds to the education the person had received *before* he entered the first job. In order to control for such mis-measurements we used the following procedure: We calculated a variable called NORMENTRY. This is the earliest possible year of entry into the labour market if the person entered immediately after the conclusion of his education and if he used the shortest possible number of years to obtain his educational level (NORMYEARED). NORMENTRY then is calculated as  $\text{NORMENTRY} = \text{YEAR OF BIRTH} + 6 + \text{NORMYEARED}$

Persons entering first job one or more years before NORMENTRY have been coded by a number of dummy variables measuring the number of years they entered before NORMENTRY. If persons entered later than expected this was left uncontrolled, because many people use more time than the time we have assumed to be needed for a speedy course of studies. The proportions of persons entering earlier than expected and the discounts they received in terms of occupational prestige in the regressions in table 3 below, columns (2) and (4), are as follows:

	Men		Women	
	% of sample used	'discount' in prestige	% of sample used	'discount' in prestige
entered First Job earlier than expected				
1 year	8.7	-5.900* (1.092)	10.1	-2.653** (.898)
2 years	7.0	-6.620* (1.204)	7.1	-4.934** (1.058)
3 years	6.7	-7.800* (1.242)	5.1	-4.861** (1.221)
4 years	2.9	-13.737* (1.862)	1.5	-8.938** (2.210)
5 and more years	2.6	-27.225* (1.963)	1.1	-20.179** (2.598)
Number of Observations	3852		3891	

\*  $p \leq .10$ ; \*\*  $p \leq .05$ ; \*\*\*  $p \leq .01$

These dummy variables are used as controls in all regressions presented in this contribution. They work as expected. Persons who enter first job before the year expected, given their education, generally receive lower status first jobs than those entering in the expected year or later. By the inclusion of the dummy variables in the regression analyses we therefore compensate for the artificially lower prestige of first job of those persons who entered first job before they had obtained their highest level of education (used here to predict first job). Analogous controls are also made in the multinomial logistic regressions presented below in tables 5, 6a and 6b.

#### 4. Results of analyses

##### 4.1 Changing distributions in educational participation, social background, and first job

Like all other industrial nations Germany has experienced a substantial expansion in educational participation in the decades following the second world war. The main trends of the changing educational participation are shown in figure 1. The lines in this figure depict for each birth cohort the proportions of men and women who have obtained a given level of education or more. The two top lines, for example, show the proportions of those men and women who have obtained at least qualification level 1c: they show the proportions of those who went beyond compulsory schooling, either by taking an apprenticeship following compulsory schooling or by continuing in advanced secondary education. For the lines further down in the figure, the educational criterion which must be satisfied, is set at successively higher levels, for the second pair of lines at the level

of intermediate secondary education ('Mittlere Reife'), for the third pair at the 'Abitur' level and for the fourth pair at the level of tertiary education.<sup>4</sup>

Include here Figure 1

The figure indicates at which levels the educational system has expanded most quickly, and shows the narrowing of the gender gap. The top line documents a distinctive feature of German educational history: Already at the beginning of the century a large majority of men obtained at least a vocational training after compulsory schooling. This is really what makes Germany different from most other countries with respect to the qualification of the labour force. Among women, however, at first those cohorts started to increase participation in vocational training who reached school leaving age in the early 1950s (add 15 to the year of birth). At about the same time men and women increased participation in the Realschule and Gymnasium (leading to 'Mittlere Reife' and to the 'Abitur'). At the end of the 1970s women overtook men in obtaining at least the Mittlere Reife exam. But up until present women still have lower participation rates than men at the level of 'Abitur' or tertiary education.

From data not presented here we know that most of those who quit general schooling at the intermediate secondary level generally obtain additional vocational training, most of them in an apprenticeship, but women in particular also in school based forms of vocational training. Most of the 'Abiturienten' go on into tertiary education; only a small, but recently increasing proportion obtains vocational training, in most cases in an apprenticeship. An even smaller proportion of the Abiturienten enters directly into the labour market. The changing distributions of men and women in the various forms of vocational training are shown in figure 2.

Include about here Figure 2

The increased educational participation is dependent on various factors (see Blossfeld 1993; Müller/Haun 1994). Most important is a general augmentation in educational participation, that is independent both of a changing composition with respect to social backgrounds of successive cohorts and of changing effects of parental characteristics on educational participation. Concerning the effects of parental characteristics on educational participation there is disagreement in the literature. While Blossfeld finds 'persistent inequality', several other recent studies, partly based on much larger samples, find substantial reduction of inequality of educational participation among children of different social origins (see Müller/Haun 1994; Jonsson/Mills/Müller 1996; Henz and Maas 1996). Partially the increased educational participation is also due to a changing composition of parental education and of parental class. As figures 3 and 4 show, the distribution of parental education and of father's class have switched into a direction more favourable for children's education. From the cohort who entered first job before 1960 to the cohort who entered 1960 or later the proportion of parents with only compulsory education has decreased, the proportions with secondary and tertiary education have increased. In the distribution of father's class

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<sup>4</sup> The distance between a line at a higher level and a line below can be interpreted as the proportion of those who leave the educational system at the level indicated by the higher line.

the proportion in particular of farmers within the petty bourgeoisie has decreased. The proportion of fathers who belong to the service class has grown.

Include about here figure 3 and figure 4

Other distributional changes in the variables used in the present analyses can be seen from table 1. Consistent with the changes in the class distribution the mean of father's occupational prestige has increased. Due to the grown educational participation average age of respondents at the point of entry into their first employment has increased by about two years; for men slightly less than two years, for women slightly more than two years. But even in the younger entry cohort men start their regular working life about half a year later than women. This difference may be due to the military or civil service, which is compulsory for men, but not for women. Finally, table 1 also shows a substantial increase in occupational prestige at first job, which is slightly larger for women than for men. In both entry cohorts the standard deviation of prestige of first job is considerably larger for men than for women.

Include about here Table 1

#### 4.2 Labour market participation and unemployment

In this first analytic section we consider the consequences of educational resources for *employment preferences* and *exclusion from employment opportunities*. Employment preferences are measured by the proportion of men and women employed in contrast to those who are not in the labour force in the core age span of labour market participation. Exclusion from employment is measured by the proportion of men and women who are unemployed. These measures of employment preferences and exclusion from employment are at best poor proxies, since we cannot control for the 'discouraged workers', those among the 'not in labour force' who gave up to look for a job or do not try to find a job, because they expect to fail.

In the patterns of employment preferences and exclusion from employment Germany has several characteristic features: Although unemployment rates rose in particular in the recessions of the 1980s and 1990s, since 1950 Germany always has had comparatively low rates of unemployment. Unemployment rates in Germany were constantly below the OECD average (OECD 1994; 1995). At the same time, Germany has been and still is among the countries with a low level of female employment. The rates of unemployment, relevant for the first hypothesis formulated above, can be seen from figure 5. Germany belongs to the countries with the lowest levels of youth unemployment. Exclusion from the labour market is rather concentrated on the other end of working life. Germany has higher than average levels of unemployment among persons aged 50 or older and is among the countries with high rates of early retirement<sup>5</sup> (Kohli et al 1991). These well established findings of German labour force statistics are consistent with the general hypotheses

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<sup>5</sup> In 1992 for instance, labour force participation of men was 74 per cent in the age group 55 to 59; 31 per cent in the age group 60 to 64; for women the respective figures are 42 and 10 per cent.

derived above on the variation of unemployment risks across working life. Compared to the major problems to find employment encountered by school leavers in many other countries, the transition from school to work is relatively smooth in Germany, and the specific system of vocational training and labour market organization most likely plays an important role in producing this outcome.

Include about here Figure 5

Based on the data of ALLBUS and SOEP figure 6 shows the distribution of men and women among the three types of labour market participation that we distinguish. The results are consistent with what we know from public labour force statistics. Most remarkable is perhaps the high proportion of German women who are not in the labour force. But this is in agreement with many studies which show that in Germany still large proportions of mothers with young children withdraw from paid employment (eg Müller 1986; Tölke 1986; Kurz 1995; Lauterbach 1994). The proportions of the unemployed are slightly underestimated, due to biases in survey participation. If - according to figure 6 - the proportions of those unemployed are larger among men than among women. This should not be mistaken as indicating higher risks of unemployment for men. It is mainly the consequence of the much smaller employment rates among women.

Include about here figure 6

The multinomial logistic regression analysis in table 2 takes into account these differences in labour force participation rates. The figures indicate the effect of father's social class and of respondent's education on the likelihood of being unemployed or not in the labour force rather than being currently employed (the latter representing the reference category of the dependent variable). The effects of respondent's education and father's class are measured as contrasts to the reference group of respondents with the most disadvantaged conditions, ie those who have obtained but compulsory education (1ab) and whose fathers were unskilled workers when they were in the age of 16. (In all later analyses we will follow a similar strategy in choosing reference categories). The first two columns of the table relate to the combined sample of men and women, including sex as a control variable. The following columns show the estimates separately for the female and male sample.

Include table 2 about here

Three main findings are evident from table 2:

1. The much lower labour force participation among women than among men is reflected in the parameter for sex in the combined regression (column 2). The coefficient for gender relating to unemployment is also negative for men. The coefficient of  $-.194$  means that, controlling for the other variables included in the equation, for men the risk to be unemployed is only 82 per cent ( $= \exp -.194$ ) of the risk of women. But although the sample of cases studied is large, the effect is statistically not significant. The intercepts in the separate regressions lead to the same conclu-

sions: For women having characteristics of the reference category the intercept of -1.316 gives an estimated probability of unemployment of 10 per cent; for men the corresponding figure is 8.3 per cent.

2. Social background affects labour market participation almost exclusively via education. We have tested various models including parental education and father's occupational prestige and models with other specifications of father's social class. All these models let us come to the conclusion evident from the model presented here: There is only one possible instance of a direct effect of social background: Compared to sons of unskilled workers sons of self-employed fathers run less the risk to become unemployed in their own life. This finding is also corroborated in a study focusing on labour market entry (Steinmann 1994): Steinmann finds that in the transition from school to work children of self-employed fathers have a shorter waiting time to find an employment after they left school and have shorter spans of unemployment.

3. Investments in education and educational resources significantly increase employment preferences among women and they improve employment chances for both men and women. All women with education beyond compulsory education are more often in the labour force than the least educated women, but only university education makes a large and significant difference. As to the risks of unemployment: they appear to be the smaller the more education a person has. Among men, the risks of unemployment decrease in a linear way (on a logarithmic scale!) with the level of education<sup>6</sup>. Among women the pattern is slightly different: Obtaining the Abitur or tertiary education seem to be the crucial educational resources for protection against unemployment.

Whether in the context of German educational and labour market institutions education all in all is a relatively weak or strong resource for protection against unemployment can only be judged in comparison with other countries. The evaluation of the respective hypothesis proposed above thus must await the findings from comparable analyses in other countries. The hypothesis, however, relating to the crucial role of vocational training and the particular vulnerability for unemployment of those who enter the labour market with no more than compulsory education is supported by the present analysis. According to all three equations vocational training even on an elementary level (1c) attenuates unemployment risks almost as much as additional education up until a full university degree.

#### *4.3 Occupational Prestige of First Job*

We now turn to the quality of first job and begin with an indicator of its status or general desirability: prestige. Figure 7 shows the raw prestige average at first job for men and women by qualification and period of entry into the labour market. The figures for men and women look

<sup>6</sup> The exception of education group 2c is most likely an artefact, resulting from the fact that some of the younger members in this group are still fluctuating between studies and employment and are not yet integrated in a stable way into the labour force, as is indicated by the large proportion 'not in labour force' in this group. If we include only persons aged 35 - 55 into the analysis the irregularly high proportion of men not in labour force within education group 2c disappears and the effect for unemployment in this group becomes more similar to those for the groups 2ab, 3a, and 3b, but still remains slightly lower than for the latter groups.

rather similar. However, at each level - except for 1ab - women receive a slightly more prestigious job than men. The returns on education also are rather similar in the two periods before and after 1960. With the exception of the Abitur-level returns to each level of education slightly increase in the second period. In the earlier period the disadvantage for men compared to women is particularly marked at level 2c and level 3a. In the second period the prestige returns to tertiary education increase slightly more for men than for women. Herewith the gap between men and women is reduced.

Include here figure 7

Table 3 examines how occupational prestige in first job depends on conditions of social origin and educational attainment, and it shows to which extent effects of social origin conditions are mediated through education. According to the summary  $R^2$  measures more than 50 per cent of the variance in first job is explained by these variables for both men and women. 25 per cent among women and 30 per cent among men is added by education to the variance explained by social background. Both total variance explained and the component added by education would seem rather large by international standards<sup>7</sup>.

The educational component seems to be larger for men than for women. However, this is an artefact of the chosen comparisons of models: Even the equations which do not include education - the models of columns (1) and (3) - contain through the cohort variable some correlated education effects in  $R^2$ . These education components in  $R^2$  of columns (1) and (3) are larger for women than for men. This can be seen from the parameter estimates for the cohort variables in the last panel of table 3.

Include here table 3

If education is not controlled for, more recent cohorts receive first jobs with increasingly higher prestige. If we control for education these differences between cohorts mostly disappear. This is because the younger cohorts received higher education and they could convert their educational investments into jobs of higher status. This pattern is particularly striking for women. Women who entered the labour market before 1970 received considerably lower status jobs at entry than women entering 1980 and later (Mayer 1991). Their improved educational participation in the more recent cohorts puts them on equal feet with men.

Education obtained has a huge impact on status of first job. What really counts thereby is tertiary education, in particular at universities. Compared to the educational minimum, the educational credentials earned on the way up to the Abitur have significant effects on first job status, but they remain substantially under what can be gained with a university education after the Abitur. For women each educational level beyond compulsory schooling, except for university, provides

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<sup>7</sup> The figure for total variance explained exactly corresponds to an earlier finding by Müller (1978), but is considerably larger than in the models by Mayer and Blossfeld (1990), who use a different measure of sons' education and do not include parents' education.



larger gains than for men. The similar findings from the simple prestige averages in figure 7 are thus corroborated with the multivariate analysis. As additional analyses (not documented here) show, prestige returns also depend on the *type* of vocational training obtained. Apprenticeships in agriculture, in a craft or in a trade provide less prestigious jobs (on average 5 points on the MPS-scale) than apprenticeships in commerce or another non-manual occupation.

For social background the models include all three variables: parental education, father's occupational prestige and class membership. Excluding any of these variables would imply to underscore the total effect of social background and would lead to overestimate the unique contribution of education. Family background is not completely mediated through education. The effects of father's occupational prestige are only reduced by slightly more than half when respondent's education is included into the equation. Parental education also affects the child's first job status independent of his education. This, however, is barely the case for father's social class: Its effect is substantial when education is not controlled for, but sharply declines when education is taken into account.

Include about here Table 4

How did the effects of the various factors related to prestige of first job change over time? Table 4 contrasts the cohorts entering employment before 1960 to those entering 1960 and later. Although the basic pattern of coefficients appears unchanged, we observe a number of differences between the two periods worth mentioning. First, for both men and women variance explained increases. The increase in predictability of prestige of first job is particularly large for men. Secondly, also some of the parameter estimates change in non-negligible ways. The intercepts for both men and women become larger. Thus, even persons with the least advantageous resources receive first jobs of slightly higher prestige in more recent years. Direct effects of father's class decline for men and women. Direct effects of parental education disappear almost completely for women. Only for men father's occupational prestige appears to affect prestige of first job more in the years after 1960 than before. Thus, at large, direct effects of social background characteristics rather decline than increase.

As to prestige returns to education two quite substantial changes occur: Returns to lower level tertiary education (3a) increase, while the value of a full secondary education (2c) clearly declines. This is true for both sexes, but the changes are stronger for men than for women. As returns to university education (3b) also slightly increase, we can conclude that tertiary education, in particular lower level tertiary qualifications became of a larger advantage compared to all other educational qualifications. Below tertiary education the gap between intermediate and full secondary education declines for both men and women, in the case of men because of reduced returns to the Abitur, in the case of women both because of decreased returns to the Abitur and increased returns for intermediate secondary education. The improved position of women at first employment is notable in this table again. As the intercept shows, even women with minimum education receive slightly better jobs after 1960 than before. And except for the Abitur and elementary vocational training (1c) the prestige returns to education increase.

If, as we did in analyses not documented here, we split the data into more narrowly defined entry cohorts, the observed trends of a stronger determination of prestige in first job and an increased advantage of tertiary education appear to be even stronger. In the cohort entering first job between 1980 and 1994  $R^2$  for men increases to .61, for women to .55; the estimated prestige returns for higher tertiary education (3b) increase to 71 points for men and to 78 points for women.

In sum, education became a stronger determinant of prestige in first job. Variance explained clearly increased and tertiary education also provided higher prestige returns for the entry cohorts after 1960, and even more so in the most recent years. As increasingly larger fractions among the younger cohorts moved into the highly differentiated area between full secondary education and a university degree, these changes in educational participation became one of the main reasons why variance explained by education in prestige of first job increased.<sup>8</sup> As long as higher education will not become significantly devalued, the continued increase in the proportion of labour market entrants with tertiary education should prop this trend of a stronger (statistical) determination of prestige at labour market entry also in the future.

#### *4.4 Class of first job*

Labour markets are strongly sex-segregated and the distributions of jobs of men and women vary substantially. This is but one reason for complementing the study of educational outcomes with dimensions which are more sensitive to the sex differences in first jobs than prestige scores are. One such dimension is social class. The huge difference between men's and women's class distribution at first job becomes very clear from figure 8. Men are much more often in working class jobs, in particular in the skilled sections of the working classes (classes V and VI); women are more often in routine non-manual jobs. Between the two periods the change in class distributions was larger for women than for men. The proportion of women in the unskilled working classes drastically decreased. The proportions in the skilled working classes and in all non-manual classes increased. After all the transformations there still remains a perceptible difference in the shares of service class jobs of men and women. Men obtain more often jobs in service class I, women more often in service class II.

Include about here figure 8

The differences in class distributions of men and women help to understand one particular finding of the prestige regressions above, that is, why women, on the average, have higher prestige scores than men and why they receive slightly higher prestige returns for education than men. The main factor responsible for this finding is that jobs in class III (mostly held by women) tend to have higher prestige scores than jobs of unskilled or even skilled workers (mostly occupied by men).

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<sup>8</sup> A simulation study, the results of which are not documented here in detail, shows that the increases in  $R^2$  indeed mainly result from changes in the distribution of education and not from changes in returns to given levels of education.

For instance, in the period after 1960 the average prestige of the jobs in the routine non-manual class is 54 points; in the skilled working class it is 46 and in the unskilled working class 35 points. Jobs held by men and jobs held by women within these classes have almost identical average prestige scores. The possible (symbolic) advantages that women have compared to men in terms of the prestige of their jobs appears in a more realistic light when we analyse outcomes in terms of class position. Even in the more recent period almost twice as many men than women obtain their first job in the most advantageous class position, the upper service class.

Before we turn to the more detailed analysis we should also try to understand why the proportions in classes IV and V are as large as the figure shows. Indeed, neither self-employment nor positions for men are typical class positions of first jobs. More detailed inspection of the data shows that the relatively large proportions observed for these classes partly derive from the coding conventions of the Erikson-Goldthorpe class schema, partly from the fact that we have collapsed agricultural and non-agricultural jobs in class IV. In fact, the majority of jobs in class IV are in agriculture, more so in the older than in the younger cohort; others are small shop owners in goods distribution, workers on own account engaged in traditional crafts (eg tailor) or self-employed as selling representative in commerce or in the insurance business. In addition, a substantial part of class IVabc first jobs are jobs as family helpers (among women close to 60 per cent in the older cohort and about 20 per cent in the younger cohort, among men about 20 and 10 per cent). As to those coded into class V, indeed only small proportions are for men (among men one of three in the older and one of six in the younger cohort, among women almost none). At entry into the labour market class V is mainly composed by jobs of 'technicians' of various kinds. The most frequent single category is technical drawing, in particular among women. We have to remember these first job peculiarities in classes IV and V when we interpret findings of the following analyses relating class position in first job to social background and education.

Because of the specific class destinations of women, some of the models we would have liked to test cannot be estimated on reliable grounds for women, because some education-job destination combinations occur very rarely (for instance virtually no women with tertiary education enter a working class job in their first employment). We therefore first present a more detailed model for men and then compare men and women with less detailed data. The model presented for men in table 5 is itself the result of extended tests to obtain a model which is as parsimonious as possible. The model used is a multinomial logit model in which we contrast the chances of access to one of the more desirable class destinations to the risks of entering the labour market as an unskilled worker. Father's social class, parental education, and respondent's education, plus the various control variables mentioned in the methods-section above are used to predict these risks. Initially the model also included father's prestige as well as more detailed classifications of father's class and parental education. For father's class each of the classes I, II and IIIab were considered separately and not collapsed as in the final version in table 5. For parental education two distinct levels of secondary education (2ab vs 2c) were distinguished. The various tests we have carried out showed that the social background effects can be represented without loss of substantial information with the few parameters shown in table 5.

Include about here table 5

For father's class and parental education the model basically is a levels model, in which the figures in the non-zero-cells indicate the extent to which a given origin condition enhances the likelihood of access into a given class rather than to become an unskilled worker. As indicated by the blocks drawn into the table some of the origin effects are constrained to be the same for various destinations. The cells marked to be zero are constrained to form zero log-odds ratios with the corresponding reference categories. For a given variable, the inclusion of zero-constraints generally depresses the estimates for the parameters in the non-zero cells<sup>9</sup>. In a non-constrained model the estimates for effects of specific conditions of father's class and parental origin are therefore generally somewhat larger than they appear in our models. The parameters in our models, however, have smaller standard errors; and the tables are much clearer to read. Detailed inspection of non-constrained models did not suggest any interpretations or conclusions different from those of the constrained models. In particular effects of respondent's education are almost identical in a constrained or unconstrained model.

According to the estimates of these models in table 5 social background directly affects class of first job beyond its effects mediated through education. Similar to the prestige regression we find positive effects of parental education and of father's occupational position. However, in the prestige regressions we found effects of father's prestige but not of father's social class. Here the results are reversed. We find effects of father's class but not of his prestige. We find significant effects from father's to son's job only if we represent and measure the job of both in the same dimension (either prestige or class).

Three kinds of class effects can be identified: *white collar inheritance*, *petty bourgeoisie inheritance* and *skilled worker inheritance*. *White collar inheritance* pertains to origin classes I to IIIab and destination classes I to V. We include destination class V within the white-collar block, because (as we mentioned before) most of the cases with first job in class V are qualified technicians. White collar inheritance thus means that sons of white collar origin find ways of starting working life within the world of white collar work with higher probabilities than one would expect from their education. They avoid working class jobs. The effect for *petty bourgeoisie inheritance* is particularly high. It mainly pertains to farmers' sons who work as family helpers on the parental farm or indeed become farmer very early in life. But the effect also derives from a few offspring of the non-agricultural petty bourgeoisie who follow their fathers' footsteps. *Skilled worker inheritance* is somewhat less strong than white collar inheritance. Like the other two effects it points to class maintenance. But it also indicates differentiation of job prospects of sons in

<sup>9</sup> Due to the zero-constraints, the parameters of the constrained variables cannot be interpreted as a straightforward difference to one specific reference category (such as class VII for father's class or compulsory education for parental education). The reference is defined by the zone of all zero-cells. However, in constructing the model, we constrained only parameters to be zero for cells, which in a non-constrained model did not differ significantly from the reference category. As the reference category in the non-constrained model was chosen to be the least advantageous origin condition (VII for fathers class and 1ab for parental education) the parameters for the cells later constrained to zero generally had positive, although not significantly positive values. Constraining them to be identical with the reference category generally enhanced the value for the baseline (expressed in the intercept) and in consequence depressed the estimates for the parameters in the non-zero cells.

working class families: Sons of skilled workers are somewhat protected from starting work life as unskilled workers, sons of unskilled workers clearly less.

As concerns parental education table 5 reveals two areas of zero cells, but for completely different reasons. First, access to the petty bourgeoisie class (rather than to the unskilled working class) does not depend directly on parental education. As far as parental background directly affects access to this class this is exclusively (and - as we have seen before - massively) through direct inheritance of class position. Secondly, tertiary education of parents does not affect directly entry class of children. However, (as other analyses not presented here show) parental tertiary education has a strong indirect effect, mediated by education of children. Almost all children of highly educated parents follow their parents' educational routes, thus mainly profiting through their competitive advantages in education from their background for a promising entry into working life. The other two levels of parental education - an apprenticeship beyond compulsory schooling or any kind of secondary education - provide a clear direct advantage for the sons at the beginning of their work career. Compared to parents with no more than compulsory education elementary vocational or secondary education enhance the likelihood of access into skilled manual work (rather than unskilled work) and even more access to any form of non-manual work. For both destinations secondary education of parents ensures slightly better chances than only vocational training added to compulsory schooling.

The effects of respondent's education on entry class again are very high. The figures could be interpreted in a gradualistic-linear way in the sense: the more education you have, the better the prospects for an advantageous class position in first job. However, beyond such an almost trivial finding, the figures also show more interestingly that specific levels and types of education are particularly associated with specific class destinations.

Consider first access to the service classes I and II. Education effects increase in an almost linear way. As the effects are measured in logits, the exceptional pay-offs found for tertiary education in the prestige analyses are confirmed here. Though the increments in pay-offs for tertiary education, in particular for university education, are really marked only in the case of access to service class I. The competitive advantage of tertiary education compared to (full) secondary education is substantially smaller if we turn to class II and it vanishes in the case of class IIIab. Access to class II and III is dependent on education in the form of a two step function: the first step is having at least vocational training in addition to compulsory education; the second step is obtaining intermediate secondary education. The latter provides a larger gain for access to class II than to class III.

Education is almost irrelevant for access to the petty bourgeoisie. (The crucial factor here is father's class!). As to access to the classes V and VI the main split is between school leavers from compulsory schooling and those who went further, either through an apprenticeship or through secondary or tertiary education. Already an 1c qualification, however, appears to be a sufficient condition to become a skilled worker rather than an unskilled worker. Additional or higher level qualifications do not enhance these chances. For access to class V a formal vocational training is

an even stronger precondition. But here, in contrast to access to the skilled working class, secondary and tertiary, in particular lower level tertiary education considerably enhance the chances of access beyond those given with 1c qualifications<sup>10</sup>. This is entirely plausible as first employment in class V can mainly be found in qualified technical occupations, which often are trained in institutions assigned to the lower level tertiary category (schools of engineering or technical colleges; Fachhochschulen) or - if obtained through an apprenticeship - presuppose advanced general education. Education also appears to be more important for access to class V than for access to the routine non-manual class, mainly due to the fact that (unsurprisingly) it is relatively easier for someone with minimum education to enter class IIIab than class V.

The finding that specific types and levels of education are specifically relevant for specific outcomes is underlined by additional analyses, in which we use educational information in a way that is more congenial to the German educational system, but was not adopted here for reasons of comparisons with other countries. These analyses show that the chances of access to the various class positions are also conditioned by type of vocational training. If non-tertiary education is combined with a commercial apprenticeship the chances of access to the non-manual classes, in particular to the service class II strongly improve. Apprenticeships in a craft or trade occupation impact strongly on access into the classes V and VI, but are of only minor value for access into any of the non-manual classes.

Having discussed the findings for a detailed analysis for men and for data referring to the total observation period, we now move to a somewhat less detailed analysis, but we compare men and women in two periods of time. Since only a very small number of women belong to class IVabc in their first employment these women are excluded from the analysis. Furthermore, in the case of women we had to collapse educational category 3a and 3b, for reasons of very small frequencies in some of the destination classes. As in the previous analyses we have carried out numerous tests in order to find a model which represents the effects of social background as parsimoniously as possible. The results for this analysis are given in table 6a for men and 6b for women.

Include about here table 6a and 6b

As measured by Pseudo  $R^2$  the independent variables scarcely allow better predictions of the distributions in the class destinations for the younger cohort than for the older cohort. This is in contrast to the prestige regression analysis where  $R^2$  increased for both men and women.

Consistent with the results in table 5 we find direct effects of social background here as well. These effects, however, differ between men and women. For men, as before, we mainly find effects of father's class. Effects of father's occupational prestige are not significant. From the earlier to the later entry period the direct effects of father's class decline. While, like in the previous analyses, for the older cohort we find special effects for the 'inheritance' of white collar, petty bourgeoisie, and skilled worker positions from fathers to sons, these effects all disappear in the

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<sup>10</sup> For access to class VI none of the differences between the effects of education 1c and any higher educational category is statistically significant. For access to class V all these differences are highly significant.

younger cohort with the only exception of the petty bourgeoisie. For women we do not find significant effects of father's class but significant effects of father's occupational prestige. Some of these prestige effects appear to be slightly smaller in the second period. As to parental education: For men the effects have the same pattern as we found before, but they tend to be stronger in the second period. For women, direct effects of parental education (in particular of secondary and post-secondary education) were stronger than for men in the earlier period, but they clearly declined in the second period. The only effect of parental education which remains significant for women who entered the labour market after 1960 is the effect for category 1c.

In summary, the direct reproduction of social background advantages at the stage of entry into first employment differs among men and women. The following interpretation could plausibly account for the differences between men and women. Among men, fathers and sons operate in the same male labour market. Social reproduction largely occurs through inheritance of the main labour market segments, blue collar work, white collar work, and self-employment. Many daughters, on the other side, operate in a different, sex segregated labour market than their fathers. It thus seems plausible that for daughters social reproduction occurs less through inheritance of class position, but rather within a more marked hierarchical dimension as expressed by parental education or by father's occupational prestige.

Although social reproduction for men and women occurs on somewhat different grounds and through different mechanisms, direct influences of social background on class position at entry into first employment have declined from the earlier to the more recent period for both sexes. For men direct inheritance of class disappeared with the exception of the petty bourgeoisie while direct effects of parental education slightly increased. For women direct effects of parental education and father's prestige decreased.

As to the effects of respondent's own education we need not comment in much detail on the general pattern of associations, because they are consistent with the more differentiated analysis we discussed for men before. Much the same results appear for men and women. This is true for the general pattern of association between education and class as well as for the changes in the association which occur over time. The only exception to be noted is that the Abitur appears generally to provide better first job prospects for men than for women.

No significant change over time occurs in the advantages of tertiary education for getting a service class first job. The relative advantage of tertiary education, however, slightly declines for both sexes for the less typical destination of tertiary education: classes III, V, and VI<sup>11</sup>. Consistent with the findings in the prestige regressions we observe a marked decline of the labour market value of the Abitur. While in the earlier period its value for access to the combined service classes was

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<sup>11</sup> Inspection of the component parts of the respective odds ratios, however, shows, that the declining competitive advantages of those with tertiary education (compared to those with minimum education) in obtaining a job in class III rather than in class VII is not due to the fact that relatively more labour force entrants with tertiary education had to take a job in class VII in the more recent period. The declining odds ratio is rather due to the fact that those with minimum education had relatively better chances in the more recent period to obtain jobs in class III, V or VI.

relatively close to tertiary qualifications it has become rather similar to intermediate secondary qualifications in more recent times. For men, but not for women, the intermediate secondary and the vocational qualifications on the elementary level also appear to provide slightly smaller advantages against the educational minimum in the more recent period. Whether this should be interpreted as evidence of an increasing gap in prospects of access to service class jobs between persons holding tertiary degrees and persons with any other qualification above the compulsory minimum is questionable, because the decline of the estimates for the educational categories 2ab and 1c is relatively small.

For men, finally, access to the petty bourgeoisie becomes more dependent on education. This is most likely due to the sharply declining proportion of agricultural jobs in the changing mix of the farm and non-farm sector in the combined IVabc class. Outside agriculture the likelihood of starting working life on one's own account appears to increase with education<sup>12</sup>.

The findings on changes of educational effects over time are largely consistent with those found in the prestige regressions. However, the prestige regressions show increasing competitive advantages of tertiary education for both men and women. The logistic regressions reveal no such change. For access to the service classes the advantages of tertiary education remain unchanged and for access to the less typical class destinations they might even have declined. One explanation for this seeming discrepancy is that within the classes, into which persons with tertiary education most frequently enter, the composition of jobs in terms of their prestige has changed. Indeed, in the more recent period the average prestige of the jobs held in all non-manual classes has increased<sup>13</sup>. Given this fact both findings can be reconciled: The relative chances of access into the non-manual classes could remain constant (or even slightly decline as with class III) and returns in terms of prestige still increase.

## 5. Summary and Conclusions

The expectations formulated at the outset of this paper have been largely confirmed by the new database that we have compiled for this study and which includes the most recent developments. The findings on the significance of general and vocational qualifications for the chances of obtaining employment and for the quality of first job are largely compatible with the initial discussion of the specific educational and labour market institutions and their interlinkages in West Germany.

We have attempted to show that the specific German system of vocational training leaves its marks in a specific pattern of the risks of unemployment. While it generally does not expose (except for particular conditions of demographic imbalances) young labour market entrants to overproportional risks, it concentrates unemployment rather strongly among persons without at least an elementary vocational training.

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<sup>12</sup> The non-significant effect of higher tertiary education is probably due to the fact that self-employed with this level of education would generally be assigned to class I.

<sup>13</sup> The average prestige score of jobs held in service class I increased from 117 to 122; in service class II from 76 to 79 and in the routine non-manual class from 49 to 53.



As to the impact of education for the quality of first job we find differences in prestige and class position between holders of different types and levels of education that are very large in comparison with other countries (see other contributions in this book). We find large proportions of variance of prestige in first job explained by education and large effects of different levels and types of education in the competition for the more or less desirable class positions. The pay-offs are particularly large for tertiary education.

It also can be seen as a characteristic feature of the German system that the education-class linkages do not correspond to a simple linear model. Rather specific types and levels of education provide specific competition advantages for the access to specific classes. Upper tertiary education, for instance provides a specific advantage in the access to service class positions, in particular in the *upper* service class. But it does not provide advantages over less advanced levels of education in access to non-service class positions. At the lower end of the education and training system an apprenticeship in addition to compulsory schooling is a more or less necessary and almost sufficient condition to become a skilled worker. Chances to become a skilled worker are not really increased by any higher educational qualification. However, as it has been sharply coined by Konietzka and Solga (1995), Germany is not only marked by 'level credentialism', but also by 'occupational credentialism'. This is indeed a core element of the occupationally segmented structure of German labour market, the basis on which is strongly drawn by the occupational differentiation of the vocational training system, but also by the occupational orientation of parts of tertiary education. One indicator of this occupationalism is the fact that the occupational specialty of an apprenticeship has a large effect on prestige and class of first job. Apprenticeships in a craft or trade strongly improve chances to become a skilled worker, but at best slightly those for a routine non-manual or a service class position. Access to non-manual class positions is only made easier by commercial apprenticeships.

The data also confirm the hypothesis of only minor gender differences in returns to education at entry into the labour market. The fairly small differences we found can hardly be understood as indicating different returns to education per se. Rather they are a result of the sex segregation of labour markets. The conclusion of whether more advantages go to a men or to women therefore depends on the outcome observed.

In terms of the chiefly symbolic dimension of prestige women receive slightly higher returns to education than men. Women are able to turn education into more prestigious jobs, mainly because occupations in the female routine non-manual labour market tend to have a higher prestige than occupations in the working classes, mainly held by men. When outcomes are judged in terms of class position obtained and when differences in the distribution of jobs typically held by men and women are controlled for (as they were in the logistic regression analysis) the pattern of more favourable returns to education for women disappears. Furthermore, even in the more recent period clearly more men than women obtain their first job in the upper service class. But again, this is not a result of different returns to education for men and women. It is a result of the two facts that at the highest levels of education women still have not reached participation rates of men, and

that women opt for different substantive fields of education than men. In Germany higher education for women was important to improve their job prospects, but in the very decisive sections of education women still are less present than men.

It is important to qualify the conclusion of only minor gender differences in returns to education in at least two additional respects. First, we have analysed outcomes in first jobs. Conclusions may differ when we follow men and women along their further steps in the work career. Secondly, even for first job we have neglected one important dimension: Women may receive less income for their education.

The basic patterns of the effects of education have not fundamentally changed over time. At any rate there are no indications of a substantial decline in the general significance of education for prestige or class of first job. The results for the two dimensions differ somewhat. For prestige of first job variance explained increases across cohorts and the gap in prestige returns between labour market entrants with the lowest education and entrants with tertiary education, in particular lower level tertiary education increases. No such tendencies appear for class of first job. The most simple and plausible explanation for these discrepant results is that within both service classes the average prestige of jobs increased through changes in the composition of jobs belonging to each class.

Though we do not find indications of a marked devaluation of education in general, this is clearly true for one specific educational level: the Abitur. The prestige as well as the class analyses indicate declining returns to the Abitur. In France, there is a public saying about the change of value of the Baccalauréat. The truth about the Baccalauréat in earlier times was: 'Sans le bac on est rien.' But today it is: 'Le bac, c'est ne rien.' Less drastically this seems to be the case for Germany as well. In earlier decades the Abitur was not only the entry ticket to university studies. It also provided a good starting point into a few careers, eg in journalism or banking. Careers within these areas increasingly became professionalized and access dependent on tertiary educational credentials. Most likely two changes within the educational system have contributed to the devaluation of the labour market value of the Abitur, which was and still is the major educational credential based on higher *general* education in Germany. Both these changes are in the German tradition of stressing the vocational/occupational orientation of education. The first concerns an institutional reform and innovation: the establishment and strong expansion of a new layer of lower level tertiary educational institutions (Fachhochschulen) which have a clear practical orientation towards a broad set of semi-professional occupations. The second is the use of the Abitur (sometimes seen as a mis-use; Helberger 1995) as educational preparation for apprenticeships in more demanding or more prestigious occupations.

The devaluation of the Abitur cannot alter the conclusion that Germany continues to be a society in which education plays a very large role for the kind of job a young man or a young woman obtains when he or she enters the labour market. Rather one could say that within the ensemble of our results the developments causing the devaluation of the Abitur underline the findings of earlier work elaborating the qualificational space as the crucial dimension of labour markets in Germany

(Maurice/Sellier/Silvestre 1982; Haller et al 1985; König/Müller 1986; Müller et al 1990; König 1990, Allmendinger 1989a). But we have to stress the strong occupational component of this qualificational space, both in education and training and in the organizational division of labour. Neither educational expansion nor the gradual transformation of the occupational structure from industrial to service occupations have fundamentally changed these characteristic features of education-labour market linkages in Germany. Interestingly, based on common historical roots and institutions, the developments during the communist regime in Eastern Germany followed rather similar lines as in the West - and as far as 'occupational credentialism' is concerned its manifestations in the East were apparently even stronger than in the West (Konietzka/Solga 1995).

The large effects of education on first job notwithstanding, social background affects prestige and class in first job not only mediated through education but also in direct ways. Father's prestige appears to be more important for daughters than for sons and when first job is measured in terms of prestige. Father's class is more important for sons and when first job is measured in terms of class. The class effects mainly contribute to the intergenerational reproduction of non-manual class, petty bourgeoisie, and working class positions. Parental education also directly influences first job of children, more the jobs of daughters than those of sons. However, at large we find that these influences declined from the earlier to the more recent period. As this is true for both direct effects of social background and total effects, we conclude that at least until entry into the labour market the intergenerational reproduction of social inequalities seems to have declined.

What do we learn from these findings about more general theories or beliefs on the development of social structures in German society. Some authors - most prominently among them Beck (1984) - see social structures largely dissolving through increasing tendencies of individualization. Structural position at one point in time or in one social arena is increasingly less linked with structural position at another point in time or in another arena because individual opportunities for options multiply as well as risks for failures. As a concrete instance of such developments the bonds between education and work position are assumed to become weaker. Clearly our data give no support to such assumptions. They confirm earlier critical evaluations of these theses (Mayer/Blossfeld 1990). Rather than strengthening the postmodern variant of modernization theory the present results could be taken in support of the more conventional version of modernization theory formulated in stratification research (Blau/Duncan 1967; Treiman 1970). Conditions of social origin have a smaller effect on prestige or class of first job while education becomes a more powerful predictor at least of prestige in first job. However, first job is but the entry position in the labour market. Even though in Germany first job has a strong impact on later careers (König/Müller 1986; Mayer/Blossfeld 1990; Blossfeld 1989), the reduced effects of social background on first job could be compensated by stronger effects of the resources of the parental family on the career development. The effects of education which are strong at the transition from school to work might become weaker as other factors also influence the work career. A final evaluation must therefore await the study of further career mobility.

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Table 1: Means (and Standard Deviations) of Continuous Variables

	Men		Women		Total
	before 1960	1960 and later	before 1960	1960 and later	
Age at Job Entry	18.1 (3.8)	19.9 (4.1)	17.0 (3.4)	19.0 (3.7)	18.6 (3.9)
Occ. Prestige of First Job	50.6 (22.5)	59.8 (29.5)	46.9 (19.6)	58.7 (24.8)	54.2 (25.1)
Father's Occ. Prestige	52.3 (22.6)	57.1 (28.5)	52.1 (22.3)	55.1 (27.3)	54.2 (25.5)
N	1821	2031	1869	2022	7743



Table 2: Multinomial Logit Contrasting Unemployment and Being out of the Labour Force with Current Employment (men and women aged 30-55)

	All		Women		Men	
	Unemp.	Not in LF	Unemp.	Not in LF	Unemp.	Not in LF
Intercept	-1.496*** (.492)	-.178 (.294)	-1.316* (.709)	-.037 (.311)	-2.394** (.856)	-5.482*** (1.041)
<b>Social Origin (relative to VIIab)</b>						
I II IIIab V VI	-.127 (.201)	-.002 (.122)	.067 (.340)	-.024 (.130)	-.268 (.251)	.326 (.471)
IVabc	-.403 (.264)	-.091 (.146)	-.069 (.414)	-.157 (.154)	-.693** (.355)	.594 (.508)
<b>Educational Level (relative to 1ab)</b>						
3b	-1.381*** (.375)	-.811*** (.220)	-1.153** (.544)	-.896*** (.233)	-1.713*** (.533)	.503 (.761)
3a	-1.294** (.517)	-.332 (.303)	-1.443 (1.089)	-.278 (.330)	-1.359** (.610)	-.417 (1.142)
2c	-.831* (.444)	-.031 (.242)	-1.433* (.810)	-.139 (.255)	-.561 (.554)	1.184 (.836)
2ab	-.794*** (.281)	-.279* (.148)	-.739* (.391)	-.300** (.153)	-.959** (.408)	.003 (.672)
1c	-.606*** (.231)	-.010 (.127)	-.498 (.333)	-.043 (.133)	-.798** (.321)	.215 (.487)
Sex (1=Male)	-.194 (.165)	-3.651*** (.156)				
<b>Year of Study (relative to 1984)</b>						
1986	-.154 (.193)	-.291*** (.111)	.468 (.373)	-.317*** (.112)	-.452* (.237)	.358 (.404)
1994	-.648** (.281)	-.447*** (.154)	-.521 (.514)	-.573*** (.164)	-.606* (.340)	1.081* (.522)
Log Likelihood	-2233.069		-1601.239		-595.289	
chi <sup>2</sup>	1405.66		101.23		87.08	
df	36		34		34	
Pseudo R <sup>2</sup>	.239		.031		.068	
N.	4126		2006		2120	

\* p<=.10; \*\* p<=.05; \*\*\* p<=.01

Table 3: OLS Regressions of Occupational Prestige in First Job

	Men		Women	
	(1)	(2)	(3)	(4)
Intercept	40.492*** (1.775)	33.269*** (1.625)	46.206*** (1.452)	33.962*** (1.255)
Father's Occ. Prestige	.159*** (.026)	.065*** (.021)	.123*** (.022)	.060*** (.018)
<b>Social Origin (relative to Class VIIab)</b>				
I	8.777*** (2.732)	1.749 (2.149)	7.075*** (2.257)	3.087* (1.836)
II	6.359*** (1.963)	.820 (1.548)	6.279*** (1.660)	1.131 (1.356)
IIIab	6.127*** (1.926)	1.867 (1.517)	5.150*** (1.574)	1.239 (1.284)
IVabc	3.198** (1.384)	1.987* (1.088)	3.585*** (1.151)	1.483* (.936)
V/VI	-.736 (1.267)	-.375 (.994)	1.557 (1.057)	1.278* (.860)
<b>Parents' Education (relative to compulsory or less)</b>				
post-secondary	22.932*** (2.352)	3.731** (1.893)	22.009*** (1.962)	3.879** (1.645)
higher secondary	18.564*** (2.631)	3.164* (2.096)	15.465*** (2.187)	2.360 (1.800)
lower secondary	13.794*** (1.598)	3.180*** (1.291)	12.427*** (1.326)	2.236** (1.113)
compuls. + apprent.	5.057*** (1.130)	1.461* (.902)	4.708*** (.928)	1.749** (.760)
<b>Educational Level (relative to 1ab)</b>				
3b		63.313*** (1.554)		62.654*** (1.454)
3a		38.647*** (1.719)		45.168*** (2.092)
2c		24.106*** (1.691)		26.317*** (1.421)
2ab		16.577*** (1.329)		20.819*** (.868)
1c		8.221*** (1.121)		9.533*** (.734)
<b>Job Entry Cohort (relative to 1980 - 1994)</b>				
before 1930	-7.043*** (2.075)	.300 (1.650)	-18.486*** (1.530)	-3.559*** (1.306)
1930 - 1939	-3.624** (1.705)	2.225* (1.353)	-15.979*** (1.354)	-2.067** (1.161)
1940 - 1949	-4.036*** (1.515)	1.417 (1.207)	-12.519*** (1.274)	-.427 (1.086)
1950 - 1959	-3.647*** (1.416)	.727 (1.133)	-13.250*** (1.204)	-.831 (1.035)
1960 - 1969	1.022 (1.397)	1.959* (1.108)	-9.342*** (1.181)	.483 (.997)
1970 - 1979	2.529* (1.385)	1.813* (1.089)	-4.668*** (1.146)	.869 (.942)
R <sup>2</sup>	.236	.531	.268	.519
N	3852	3852	3891	3891

\* p&lt;=.10; \*\* p&lt;=.05; \*\*\* p&lt;=.01

Table 4: OLS Regressions of Occupational Prestige in First Job by Job Entry Period

	Men		Women	
	before 1960	1960 and later	before 1960	1960 and later
Intercept	33.720*** (1.707)	35.921*** (2.276)	31.162*** (1.221)	35.182*** (1.608)
Father's Occ. Prestige	.046 (.032)	.083*** (.028)	.064*** (.026)	.064*** (.026)
<b>Social Origin (relative to Class VIIab)</b>				
I	3.677 (3.188)	-.378 (2.904)	1.804 (2.561)	2.612 (2.611)
II	3.983* (2.234)	-1.932 (2.153)	2.491 (1.838)	-.638 (1.970)
IIIab	4.822** (2.166)	-.585 (2.127)	1.094 (1.769)	.895 (1.849)
IVabc	3.386** (1.395)	.617 (1.706)	3.317*** (1.158)	-.891 (1.498)
V/VI	2.184* (1.317)	-2.576* (1.473)	3.039*** (1.139)	-.392 (1.270)
<b>Parents' Education (relative to compulsory or less)</b>				
post-secondary	4.772* (2.898)	3.178 (2.579)	8.865*** (2.475)	1.730 (2.280)
secondary	2.954* (1.740)	3.761** (1.835)	4.231*** (1.463)	1.670 (1.598)
compuls. + apprent.	.179 (1.087)	2.761* (1.473)	1.326 (.904)	2.303* (1.266)
<b>Educational Level (relative to 1ab)</b>				
3b	60.160*** (2.316)	63.736*** (2.347)	61.035*** (2.486)	63.904*** (1.934)
3a	33.508*** (2.264)	41.947*** (2.673)	42.523*** (3.263)	46.508*** (2.824)
2c	27.159*** (2.389)	21.683*** (2.527)	28.525*** (2.372)	26.361*** (1.901)
2ab	15.855*** (1.723)	15.682*** (2.156)	18.548*** (1.120)	21.972*** (1.370)
1c	8.800*** (1.288)	6.644*** (1.200)	9.729*** (.863)	9.458*** (1.294)
R <sup>2</sup>	.445	.563	.462	.506
N	1821	2031	1869	2022

\* p&lt;=.10; \*\* p&lt;=.05; \*\*\* p&lt;=.01

Table 5: Multinomial Logit for Men Contrasting Entry Class Position I, II, IIIab, IVabc, V, VI with VIIab

	I	II	IIIab	V	VI	IVabc	
Intercept	-6.645*** (1.049)	-5.575*** (.635)	-3.900*** (.356)	-6.812*** (1.054)	-1.826*** (.234)	-4.198*** (.498)	
<b>Social Origin (relative to VIIab)</b>							
I, II, IIIab	.662*** (.116)					.662*** (.116)	
IVabc						2.876*** (.241)	
V/VI						.383** (.163)	.410*** (.095)
<b>Parents' Education (relative to compulsory or less)</b>							
secondary	.943*** (.219)					.447** (.209)	
compuls. + apprent.	.765*** (.140)					.368*** (.121)	
<b>Educational Level (relative to 1c)</b>							
3b	9.382*** (1.083)	7.679*** (.706)	4.146*** (.495)	5.869*** (1.123)	1.960*** (.473)	1.084 (.777)	
3a	7.975*** (1.090)	7.199*** (.704)	3.975*** (.500)	6.689*** (1.094)	3.390*** (.416)	1.579** (.744)	
2c	6.130*** (1.114)	6.716*** (.673)	4.579*** (.424)	6.003*** (1.082)	3.158*** (.353)	1.708*** (.558)	
2ab	5.066*** (1.049)	5.536*** (.617)	4.042*** (.322)	5.472*** (1.031)	2.966*** (.234)	1.324*** (.385)	
1c	2.167** (1.075)	2.874*** (.606)	2.265*** (.280)	4.472*** (1.012)	3.076*** (.168)	.921*** (.268)	
Log Likelihood	-4377.607						
chi <sup>2</sup>	3162.87						
df	104						
Pseudo R <sup>2</sup>	.265						
N	3725						

\* p<=.10; \*\* p<=.05; \*\*\* p<=.01

Table 6a: Multinomial Logit for Men Contrasting Entry Class Position I+II, III,IVabc and V+VI with VIIab

	I+II		IIIab		V + VI		IVabc	
	before 1960	1960 or later	before 1960	1960 or later	before 1960	1960 or later	before 1960	1960 or later
Intercept	-4.574*** (.716)	-3.991*** (.727)	-3.317*** (.372)	-2.488*** (.375)	-1.668*** (.195)	-1.430*** (.261)	-3.722*** (.349)	-3.995*** (.604)
<b>Social Origin (relative to VIIab)</b>								
I, II, IIIab	.728*** (.171)		.728*** (.171)					
IVabc		-.610*** (.217)		-.610*** (.217)		-.610*** (.217)	2.983*** (.311)	2.260*** (.419)
V/VI			.406*** (.133)		.406*** (.133)		.406*** (.133)	
<b>Parents' Education (relative to compulsory or less)</b>								
secondary	.559** (.285)	.915*** (.277)	.559** (.285)	.915*** (.277)	.559** (.285)	.915*** (.277)		
compuls. + apprent.	.361*** (.149)	.784*** (.175)	.361*** (.149)	.784*** (.175)	.361*** (.149)	.784*** (.175)		
<b>Educational Level (relative to 1ab)</b>								
3b	8.049*** (.933)	8.384*** (.879)	4.556*** (.747)	3.816*** (.654)	2.842*** (.674)	2.265*** (.602)	.693 (1.034)	2.104* (1.256)
3a	7.377*** (.874)	7.577*** (.957)	3.182*** (.777)	4.353*** (.751)	4.057*** (.508)	3.492*** (.679)	.388 (1.159)	3.388*** (1.106)
2c	8.249*** (.977)	5.603*** (.811)	5.883*** (.767)	3.593*** (.523)	4.278*** (.676)	2.739*** (.429)	.204 (1.247)	3.176*** (.766)
2ab	5.708*** (.776)	5.202*** (.760)	4.483*** (.468)	3.619*** (.435)	3.064*** (.330)	3.045*** (.331)	.714 (.505)	2.188*** (.693)
1c	3.068*** (.743)	2.561*** (.756)	2.455*** (.397)	2.151*** (.395)	3.097*** (.214)	3.159*** (.267)	.496 (.323)	1.519** (.608)
Log Likelihood (Model: before 1960)	-1713.951				Log Likelihood (Model: 1960 +)	-1741.808		
chi <sup>2</sup>	1270.73				chi <sup>2</sup>	1424.30		
df	45				df	44		
Pseudo R <sup>2</sup>	.271				Pseudo R <sup>2</sup>	.290		
N	1784				N	1941		

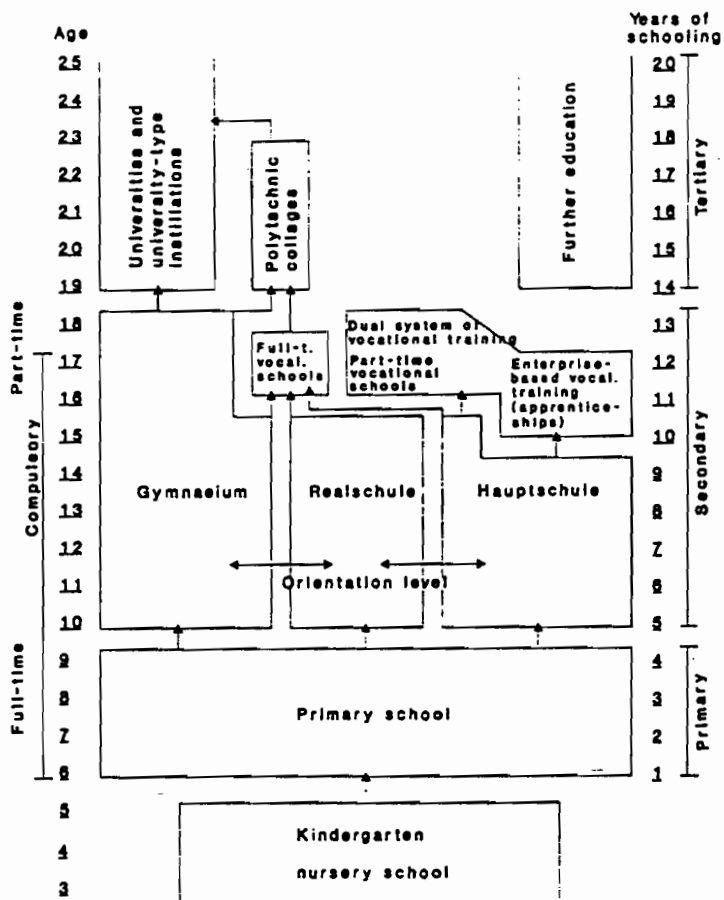
\* p<=.10; \*\* p<=.05; \*\*\* p<=.01

Table 6b: Multinomial Logit for Women Contrasting Entry Class Position I+II, III and V+VI with VIIab

	I+II		III		V+VI	
	before 1960	1960 or later	before 1960	1960 or later	before 1960	1960 or later
Intercept	-4.466*** (.371)	-4.208*** (.475)	-1.591*** (.226)	-1.452*** (.292)	-3.502*** (.322)	-2.907*** (.381)
Father's Occ. Prestige	.015*** (.005)	.015** (.006)	.011** (.004)	.009* (.005)	.010* (.005)	.007 (.006)
<b>Parents' Education (relative to compulsory or less)</b>						
post-sec.	2.053* (1.086)	.528 (.398)	2.053* (1.086)	.528 (.398)	2.053* (1.086)	
secondary	1.521*** (.399)	.289 (.207)	1.521*** (.399)	.289 (.207)	1.521*** (.399)	
compuls. + apprent.	.572*** (.139)	.693*** (.184)	.572*** (.139)	.693*** (.184)	.572*** (.139)	.693*** (.184)
<b>Educational Level (relative to 1ab)</b>						
3ab	7.827*** (1.117)	7.758*** (.866)	3.426*** (1.095)	3.030*** (.798)	2.806** (1.475)	2.091* (1.078)
2c	6.456*** (.882)	4.810*** (.574)	3.484*** (.822)	2.471*** (.433)	3.121*** (1.079)	2.322*** (.559)
2ab	5.256*** (.427)	5.209*** (.464)	3.287*** (.323)	3.096*** (.285)	3.063*** (.425)	3.076*** (.375)
1c	3.218*** (.339)	3.227*** (.439)	2.251*** (.185)	2.591*** (.212)	3.584*** (.258)	3.347*** (.305)
Log Likelihood (Model: Entry before 1960)	-1653.709		Log Likelihood (Model: Entry 1960 or later)		-1784.239	
chi <sup>2</sup>	971.84		chi <sup>2</sup>		1085.34	
df	30		df		30	
Pseudo R <sup>2</sup>	.227		Pseudo R <sup>2</sup>		.233	
N	1714		N		1879	

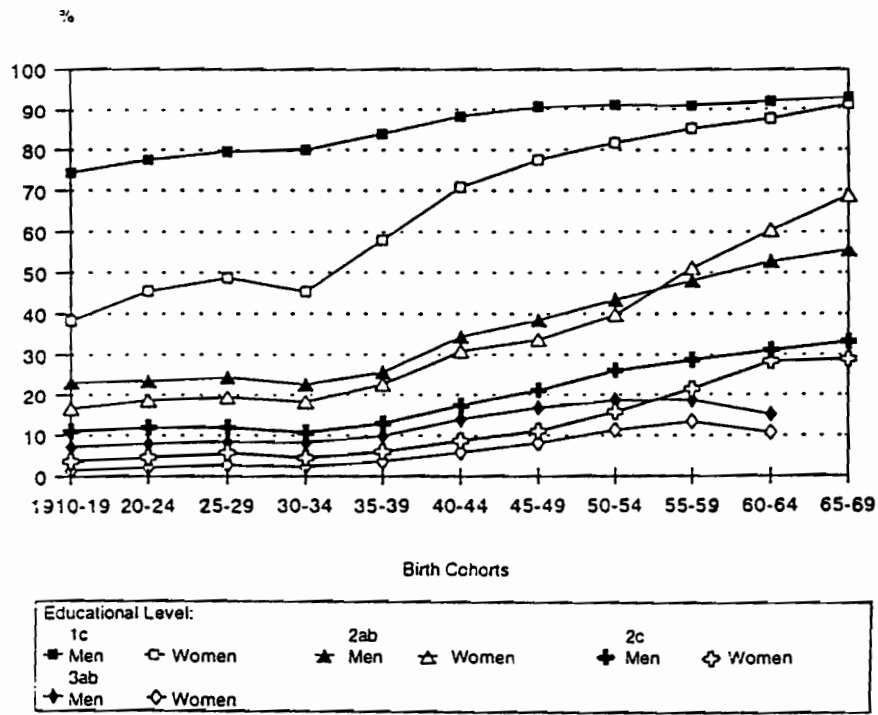
\* p&lt;=.10; \*\* p&lt;=.05; \*\*\* p&lt;=.01

Chart of the educational system in Germany



Source: Max Planck Institute for Human Development and Education, *Between elite and mass education*, State University of New York Press, Albany, NY, 1979.

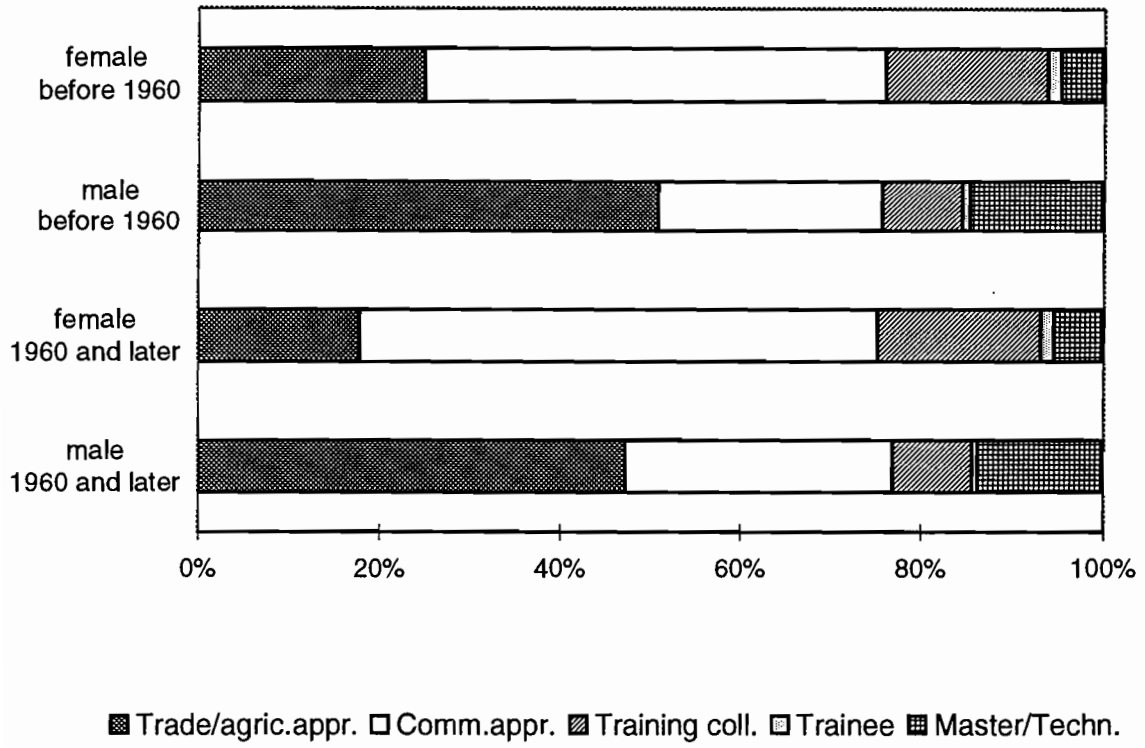
Fig. 1: Educational Level Completed



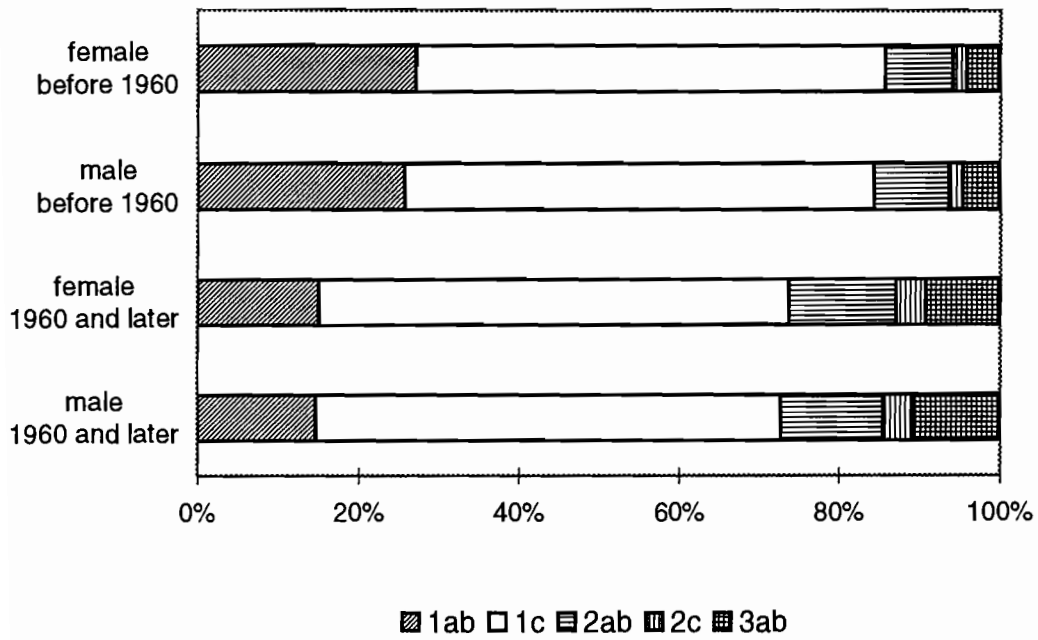
Müller/Haun 1994: 14  
 Source: SOEP 1986, ALLBUS 1980-92



**Fig. 2: Types of Vocational Training by Sex and Job Entry Period**



**Fig. 3: Distribution of Parents' Education by Sex of Respondent and Job Entry Period**



**Fig. 4: Distribution of Father's Class by Sex of Respondent and Job Entry Period**

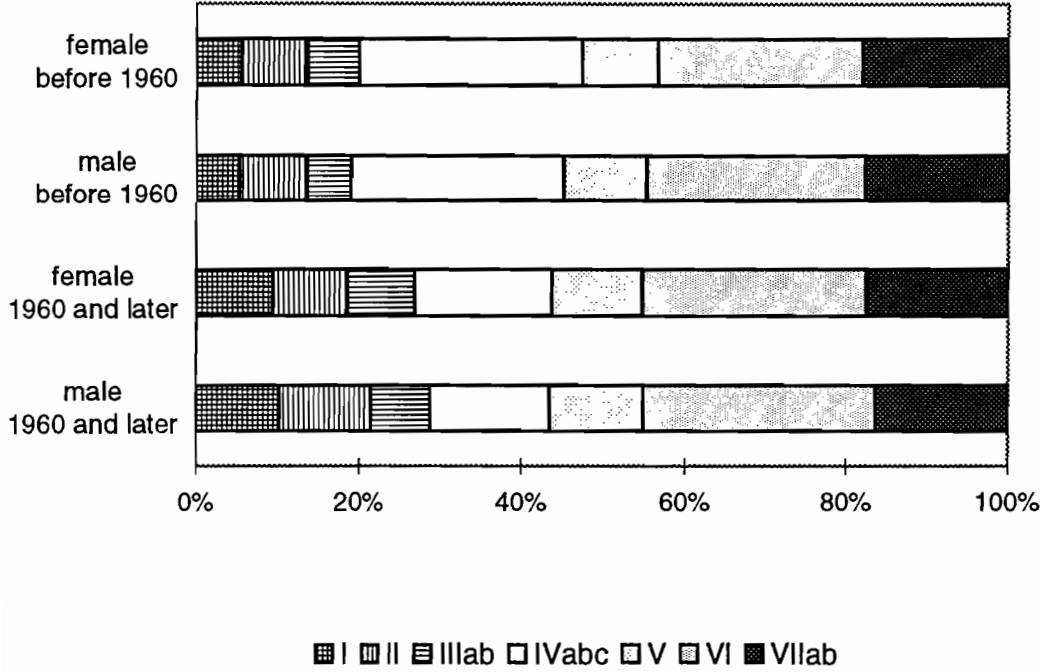
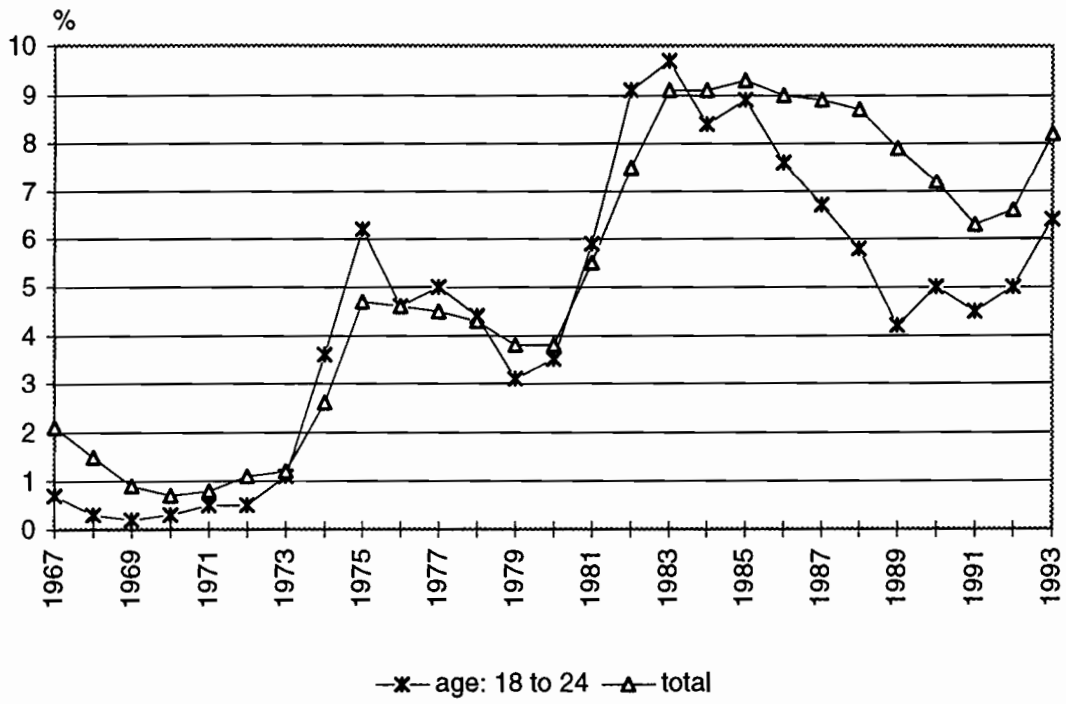
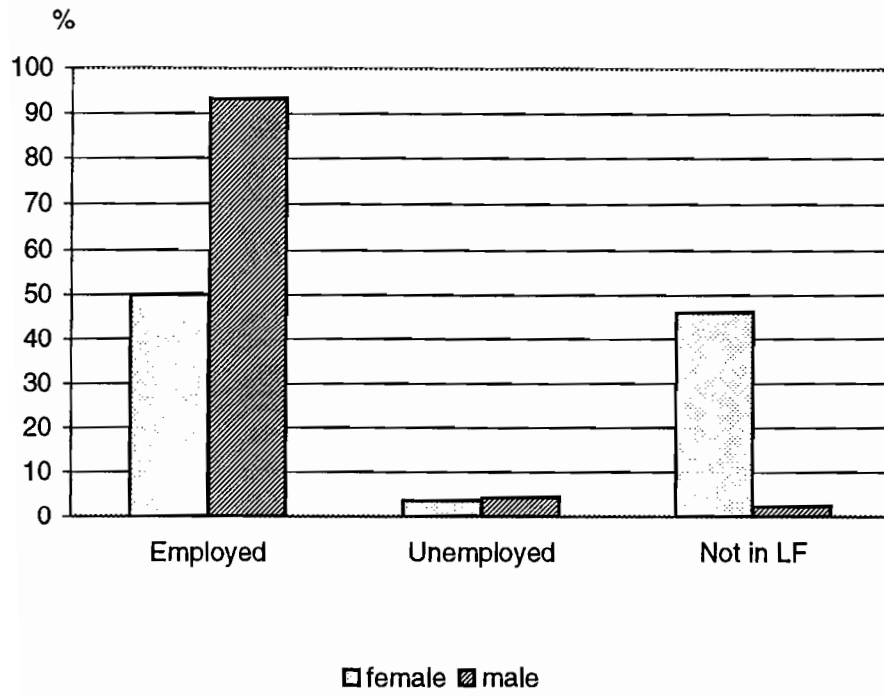


Fig. 5: Unemployment Rates in West Germany 1967 to 1993

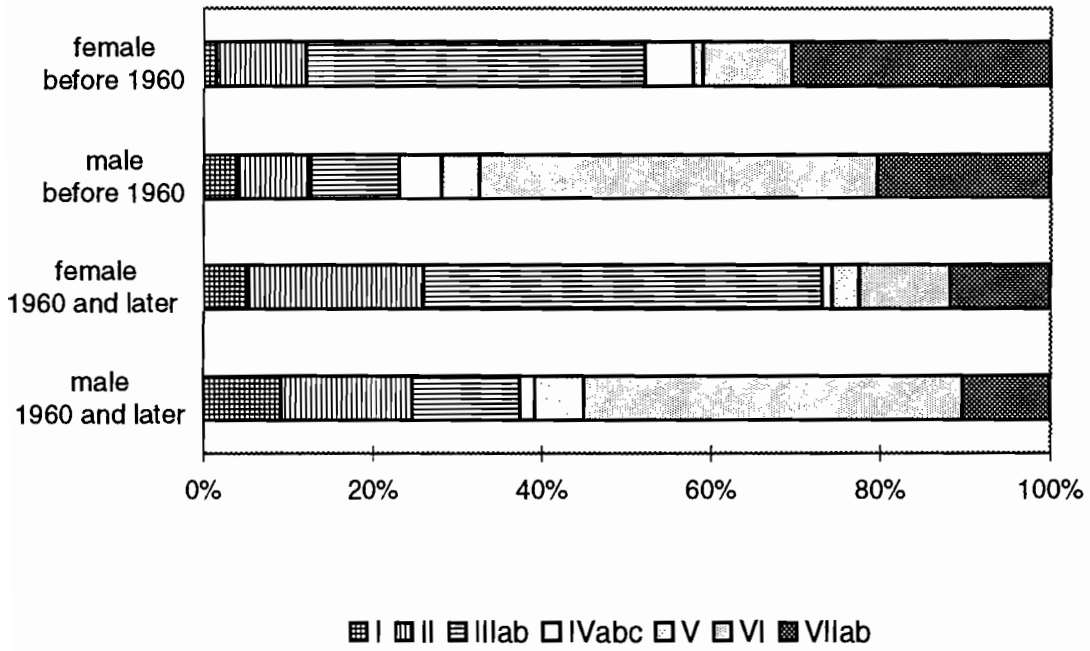


(data source: Noll et al 1995)

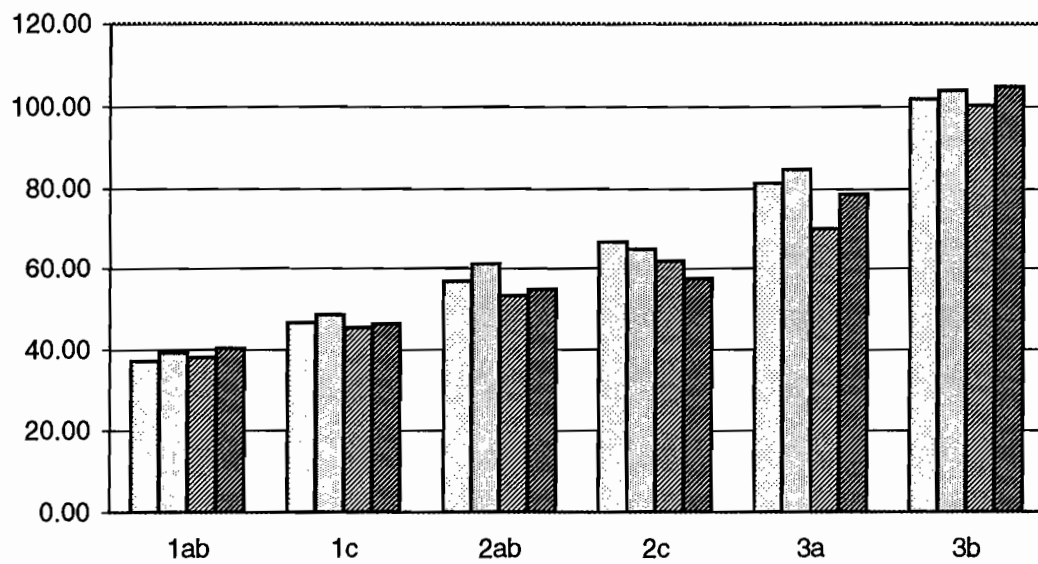
**Fig. 6: Current Employment Status**



**Fig. 8: Distribution of Entry Class by Sex and Job Entry Period**



**Fig. 7: Mean Occupational Prestige of First Job by Sex, Job Entry Period, and Education**



□ female before 1960   □ female 1960 and later   ▨ male before 1960   ▩ male 1960 and later