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**Skill formation in Britain and Germany:  
Recent developments in the context of traditional differences**

by

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**Abstract**

This paper proposes a comparison of skill formation in Germany and Britain over the last decades. Taking historical trends into account, the two cases can be regarded as representing different types of skill production regimes. Institutional features include a relatively low degree of standardization of training and a larger amount of on-the-job training in Britain. In Germany, post-compulsory training has been conducted predominantly within the dual system of vocational training, underlining the vocational specificity of a large part of the labor market. As a consequence, international differences in individual skill investments, transitions from school to work and other life-course patterns can be observed. At least in Britain, however, the situation seems to have changed considerably during the 1990s. The paper argues that the divergence in more recent developments can still be understood as an expression of historical path-dependency given the traditional connections between the post-compulsory training system and the broader societal context in which it is embedded. These concern, in particular, links with the system of general and academic education as the basis for – and also a possible competitor with – vocational training; links with the labor market as they are indicated by specific skill requirements and returns to qualifications; and, links with the order of social stratification in the form of the selective acquisition and the social consequences of these qualifications. The links manifest themselves as typical individual-level consequences and decisions. Founded on the basis of these distinctions, the aim of this paper is to investigate the preceding conditions for recent developments in the qualification systems of Britain and Germany, which have adapted to specific challenges during the last decades.

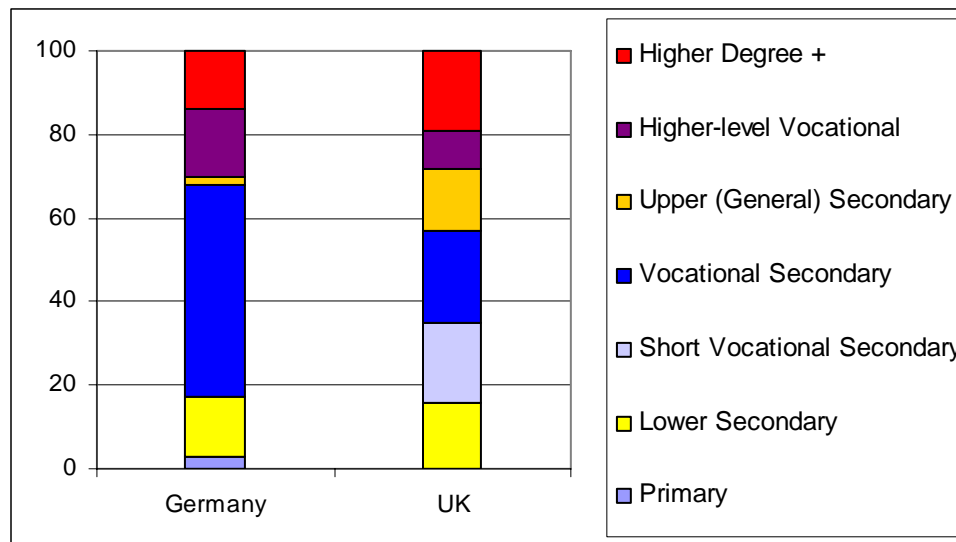
## 1. Introduction

How similar or different are national skill systems and how do they change? The public and scientific discourse about the modern “knowledge society” seems to imply that they will follow uniform trends rather than take specific pathways. On the other hand, views from inside and outside national contexts may not always be consistent. For example, the debate within Germany has emphasized problems and deficits in the qualification system, often referring to perceived international standards while, viewed from outside, the specificity of the “German model” of transitions between school, training and work has mostly been regarded as a success story (Lynch 1994; Ryan 1999). Sensitivity to problems is probably due not least to the respective importance that (initial) training has for the future careers of many individuals in a particular society. Still, the attractiveness of national “models” may change over time with varying success and the different demands put on them.

As a case study of contemporary changes in skill systems, this paper emerges from a historical comparison of the skill formation systems in Germany and Britain since World War II. As advanced and economically competitive societies, they face, in principle, comparable economic challenges. When looking at these two cases more closely, however, one may well find functionally equivalent solutions to similar problems, as well as more specific problems and different economic strategies. As it turns out, Germany and Britain have taken specific pathways in attempts to adapt to specific challenges regarding adequate skill provision. Changes in training systems, however, cannot be evaluated without a deeper understanding of the political functioning of the economies in which they are embedded. In this paper, special emphasis is drawn to different consequences on the individual level and their role in sustaining or transforming the systems of skill provision. Different trends in the skill systems of Germany and Britain have become visible, especially during the 1990s.

A brief cross-sectional overview of present differences in the skill situation of Germany and the United Kingdom may provide a starting point for a closer investigation of historical developments concerning training in the two societies. At first glance, the qualification distribution of the population at workforce age (cf. Figure 1) may confirm traditional perceptions of the skill situation in the two countries, with Germany being a case of a “high skills regime” and Britain more a case of a “low skills regime.”

**Fig. 1: Composition of qualifications in the population aged 25-64 (in percent) in Germany and the UK (2003)**



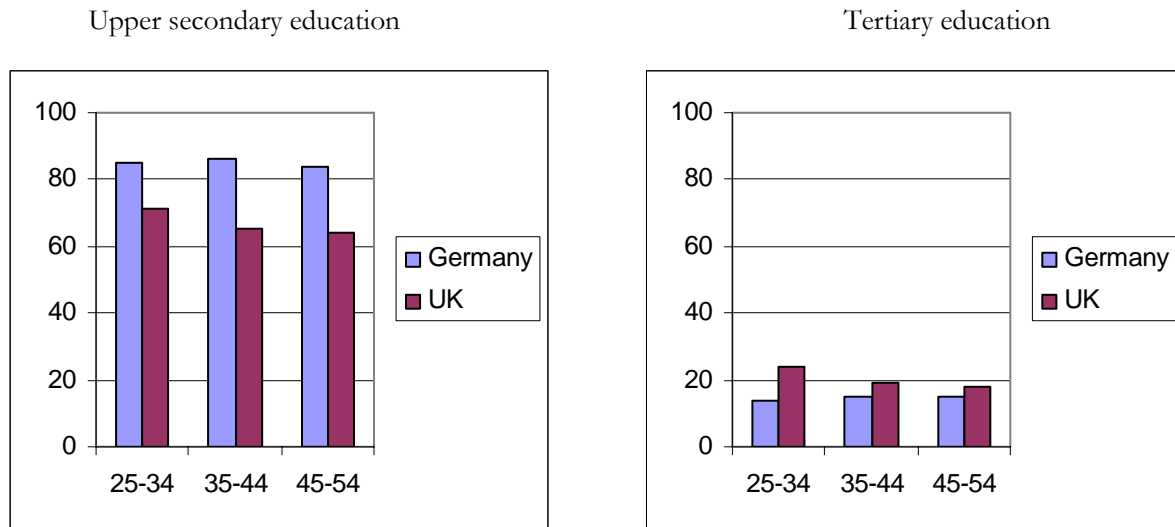
Source: OECD 2005 (Data from German Microcensus/British Labor Force Survey)

In particular, what becomes once again apparent in the qualification distributions depicted here is the German economy’s broad reliance on intermediate vocational skills – which, in the majority of cases, have been acquired in the *dual system* of combined employer- and school-based training and the institutions of further education attached to this qualification track.

What is masked by such an aggregate analysis, however, is historical change, as a simple breakdown by age group suggests (Figure 2).<sup>1</sup> While the age groups in Germany are relatively similar with regard to educational attainment, in Britain the younger age groups reflect a significantly higher proportion of completed upper secondary and tertiary education than older age groups.

Recent graduation rates from tertiary (degree-level) education in Germany hover around 20 percent (data from 2002); roughly two-thirds of the graduates are from universities, with students enrolled in programs lasting five years or more. In the UK, graduation rates approach nearly 40 percent, with the vast majority of students completing shorter courses of study (OECD 2005).

**Fig. 2: Proportion having completed upper secondary education and completed tertiary (degree-level) education, by age group, in Germany and the UK (2003)**



Source: OECD 2005 (Data from German Microcensus/British Labor Force Survey)

These figures suggest that, in recent years, Britain has taken major steps in the direction of a collective upgrading of skill levels, especially in higher education, while there have been no comparable changes in Germany.

This paper investigates how these recent trends fit into developments over a longer period of time. It will turn out that the recent trends cannot be adequately described as a mere process of one country catching up in terms of its average qualification level. Rather, there is evidence for long-term consequences in the specific, historically evolved logic of skill formation in the two countries.

The following section outlines the conceptual framework of an international comparison of skill systems, which emphasizes links between the vocational training system and other institutions. Following these distinctions, the next section presents a historical account of training systems and school-to-work transitions in Britain and the former West Germany after World War II, and until the late 1980s. While any clear-cut historical periodization is to some extent arbitrary, results from analyses of this phase may be used to explain the developments in the following decade. Comparing the two countries, it becomes clear that fundamental differences in the institutions guiding the process of labor-market entry evolved in the postwar period. As consequences at the “micro level,” differences in the individual rationales of skill investment as well as different transition and life-course patterns can be observed. The subsequent section provides evidence that these differences have also been crucial for the recent developments of the 1990s. The final section concludes.

<sup>1</sup>This interpretation of age group comparisons as cohort change leaves aside some data problems with ‘censored’ observation, i.e., the fact that, especially in Germany, people in the younger age group are still likely to attain higher-level qualifications.

## 2. A framework for international and historical comparisons

As major institutions (still) act on the level of the nation-state, there exists an increasing sensitivity in both research and public debates about *international institutional differences* as possible sources of differences in actors' behavior. Along with questions about economic performance, this applies in particular to the consequences for education, training and the labor market. Institutional contexts, however, tend to be complex. To characterize particular national institutional systems, use can be made of ideal-type aggregate typologies that have gained some prominence, not least in the form of welfare-state regimes which differ in the degree of “de-commodification” of labor by welfare provision (Esping-Andersen 1990). Such typologies allow allocating various countries to a very limited number of types in a simple way and, hence, reducing analytical complexity considerably. More directly related to the field of labor-market-oriented skill formation are distinctions between various forms of capitalism as they have been proposed by comparative political economy (Albert 1992; Hall & Soskice 2001). Political economies differ in the degrees and the forms of internal coherence, for example, between the financial sector, firm cooperation and production strategies due to typical features of social interaction such as the degree of trust in social relations. In particular, the Anglo-Saxon model of “liberal market economies” and the continental (or “Rhineland”) model of flexibly “coordinated market economies” are distinguished, assuming a systemic nature of institutional configurations where various fields of institutional influence are necessarily associated with each other. As a consequence, it is often assumed that these configurations are relatively stable. This assumption can first be contested with respect to empirical variability. Second, it can be argued in theoretical terms that the creation and sustaining of institutions need to be supported by the activities of social actors. As a consequence, institutional changes are themselves a prominent topic for sociological explanation (see, for example, Streeck & Thelen 2005).

In order to explain specific developments in training systems one needs to look more closely at the (institutional) links with their major social contexts, allowing also for possible conflicts and dysfunctional relationships. Studies in political economy have often concentrated on the role of corporate actors in sustaining and changing these links. A complementary strategy, which is also pursued in this paper, is to look at typical individual-level situations involved in the process and the consequences of skill formation. This of course raises the question of how actually to relate the qualification process on the individual level to relevant institutions. There is a wide gap between the explanation of macro-structures and the trajectory of individual behavior (see also Mayer 1997), and it can be assumed that many individual transitions are structured by a complex variety of historically changing institutions – not necessarily showing consistent effects.

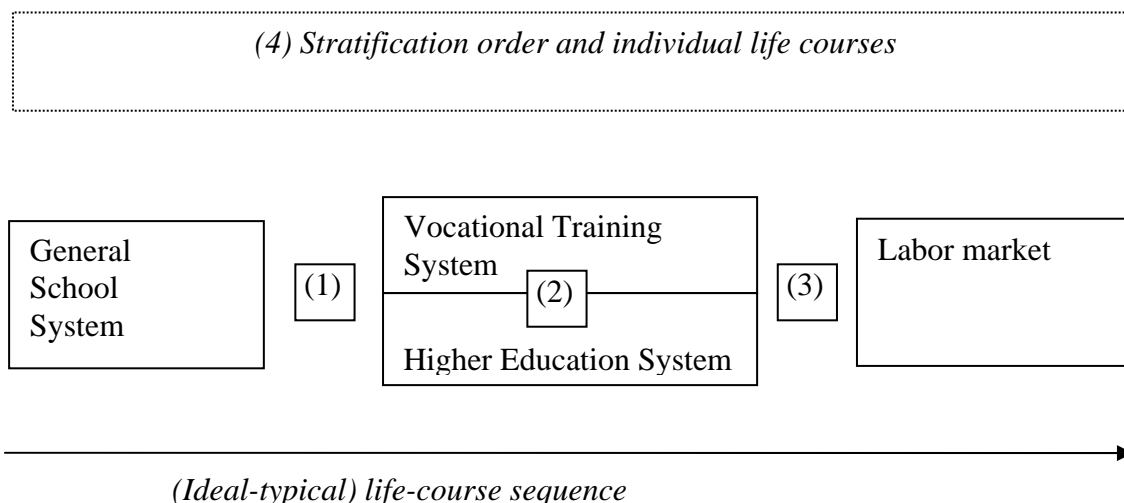
The following paragraphs intend to make some of these relationships more explicit in order to account for the typical configurations and specific developments of national skill systems. They look at links between the system of skill formation and other subsystems as they are reflected by both institutional regulations and specific market conditions. Both have implications for individual-level experiences and decisions (see Figure 3). The following paragraphs provide some further descriptions of these links.

### (1) General schooling and further education and training

In the formal structure of educational systems, (labor-market-related) further education and training normally succeed general school education. One of the main relationships between these systems is that a pre-selection for various tracks of training has already taken place within the general school system. Direct institutional links are set by entry requirements and regulations regarding access to further training programs from general education. In some instances, this also holds true for transitions in the reverse direction or forms of parallel education and training (“second chance education”).

In the first instance, school qualifications are normally just entitlements for further education that individuals may use or may not use. However, in combination with the quantitative output at different levels of the general school system, they define the pool of possible competitors for specific levels of further education. Empirically, there is often an inherent tendency to make use of such entitlements, so that a collective upgrading in general school education may exert a “supply-side pressure” on specific (higher) forms of further education.

**Fig. 3: Skill production systems and selected links with other sub-systems within a society**



### (2) Vocational training and higher education

Forms of training vary in their accessibility, structure, content, and consequences. For reasons of simplicity, in this illustration just two broad forms of post-compulsory education are distinguished: vocational training and higher education.

On the micro level, vocational training and higher education are alternative or even competing pathways for the generation and employment of skills (by employers) and for the educational decisions made by individuals. Such choices will be at least partly based on relative returns to different training options in the labor market, be it due to their signaling capacity (Spence 1973) or the amount of actual general or firm-specific human capital that they carry (cf. Mincer 1974).

While this relationship already points to links with the labor market, there are also more or less institutionalized links between various parts of the training system itself. Variation in this regard concerns the degree to which courses and degrees in one path of the further training system provide access to an alternative path, hence defining the “permeability” of the system of skill production.

### (3) Training and the labor market

Any modern economy faces the problems of providing sufficient qualifications to workers and allocating them efficiently. Therefore, national systems of education and training tend to be linked to the labor market. However, the degree of coordination between educational and employment systems may vary considerably among societies (Hillmert 2001). Not only the intra-firm, but also the societal division of labor determines which qualifications are regarded as essential for particular jobs (cf. Windolf & Wood 1988). As training profiles often correspond to career paths, the structures of qualification systems remain relevant beyond the immediate point of entry into the labor market.

The links between the subsystems of employment and training are, on the one hand, affected by the degree to which information on the aggregate demand for necessary qualifications is successfully transmitted from the employment to the training system. In this regard, features of the institutional structure of the training system are important, such as whether training is provided directly by employers, who tend to have immediate information on their skill needs. In some cases, vocational training may even include an employment contract. Relevant information for individual choices made before entering training programs is also transmitted by the situation of preceding cohorts, e.g., by how many and what kinds of jobs they were offered upon completion of training.

On the other hand, when looking at the skill output from the employers’ point of view, the quantity and the quality of attained skills, as well as an efficient allocation, are of major importance. The balance between aggre-

gate skill supply and demand is a necessary, but not a sufficient condition for a close match at the level of the individual. One major allocative mechanism is that formal qualifications carry a high amount of information for potential employers and hence can serve as screening devices in recruitment procedures. These screening capacities are likely to be influenced by how educational systems are regulated and formally structured. Educational systems can be classified, for example, along the dimensions of *stratification* and *standardization*, as proposed by Allmendinger (1989). However, as to the question of allocation, once again, the labor-market relevance of vocational training is even more important, inclusive of whether vocational training is provided at the workplace or in schools.

For individuals, of course, among the most important consequences of their qualifications are their consequences in the labor market. Segmentation theories and the theory of closed positions (Doeringer & Piore 1971; Sørensen & Kalleberg 1981) have made it clear that the labor market may be internally differentiated with a particular structure, which is not least defined by formal entry requirements into specific occupations and positions (most notably, public service). Hence, the concept of competition in the labor market cannot be reduced to competition about wages as a function of human capital. There may also be considerable competition regarding positions and opportunities, and the type of aspired job will determine the level of required qualifications. In most cases, the level of entry positions is especially important with regard to the prospect of further careers.

#### **(4) The social stratification order and life courses**

In a sociological perspective, societal evaluation plays a major mediating role in any of these linking processes. Labor-market outcomes and other effects of qualifications cannot be understood in economic terms alone, but always have social implications in terms of social inequality.

The assumption here is not that economic outcomes per se, but socially evaluated outcomes, form the basic foundations for regulations and individual decisions. For example, what count as the “essential skills” that need to be taught is open to social definitions (Rainbird 1997). The same holds true for acceptable durations of transition periods, importance of income levels, job positioning and promotion chances that transform economic consequences into central aspects of the stratification order. In fact, it is the social evaluation of educational consequences that defines unequal chances of access to (particular forms of) education and training as a sociological problem. With regard to an explanation of individual behavior, it is important to note this aspect when examining the impact that perceived consequences of formal qualifications might have on decisions taken regarding investment in particular forms of qualification.

Consequently, social stratification also has a direct influence in transmitting differences in qualification over the generations. Among the most prominent examples is the high degree to which early selection within the school system is influenced by social origin. According to the theory of Breen & Goldthorpe (1997), for example, the main rationale of schooling decisions by parents is to preserve their original social status, attainable only upon successfully completing particular educational tracks.

Yet another question is how to observe these links. While institutional regulations and the behavior of collective actors are important sources, empirical information about individual situations may provide additional insights into the process and the consequences of skill formation, and the conditions that enter the decision horizon of successive cohorts. Assuming a systemic nature of the institutions that are involved, international differences may be conceptualized in the form of life course regimes (Lessenich 1995; Mayer 2001).

It is important to study such effects over time: consequences of qualification may evolve over a longer period, and training decisions are often long-term decisions. Hence, one may look at the particular transitions people make among different parts of the education and training system and labor market, as well as longitudinal measures of stability (such as job duration). However, only in an ideal-typical sense, the general school system, vocational training and employment form a clear sequence that all individuals follow. In reality, one also finds reverse orders, multiple and parallel episodes of both training and work.

A perspective that primarily looks at the situation of individual actors seems, in the first instance, not to focus on institutional change, but tends to emphasize processes within a given institutional structure. It is unlikely that individual actors are able to change institutional structures. However, imbalances that show up at this

level are often the starting point for institutional adaptation and change, put forward by collective actors and implemented by state regulation.

The following sections present examples for such links between institutions and life courses. In order to enter into greater detail, this paper presents an historical comparison of two countries rather than a multi-country comparison (a type of research prevalent in many macroeconomic studies).

### 3. Training systems and their consequences in Britain and West Germany until the 1980s

#### 3.1 Education and training

The system of education and training is probably the most important determinant for the process of transition to the labor market. Despite of some common, long-term historical traditions (in particular, apprenticeships for artisans), for most of the period after World War II, the national systems of general and vocational education in Germany and Britain have shown important differences (see also Hillmert 2001; 2002).<sup>2</sup> In a long-term historical comparison of skill systems (Thelen 2004), it becomes clear that changes can be both sudden and incremental, and that the circumstances of the generation of these systems need to be distinguished from their present way of functioning. The following summary describes major differences after World War II through the 1980s.

##### Britain

For our focus period, the British system of education and training can be characterized by a relatively clear distinction between general education and vocational training. General education has been stratified and characterized by a school system with cumulative qualifications, selective ability testing and a hierarchy of higher educational institutions. Important developments after World War II include successful attempts to standardize, and subsequently also to centralize, general education by raising the minimum school-leaving age, by introducing general school qualifications and, finally, a national curriculum and standardized testing at various stages of the schooling career.

Since the 1960s, most of the schools have become comprehensive schools, but the differentiation among various levels of (post-compulsory) school qualifications has, in many respects, taken the function of different school tracks and become an important means of selection also by employers. In addition, a small but influential sector of high-status private schools has retained social relevance. Academic training in Britain has been rather general and has had a relatively high reputation, but there has been a clear hierarchy with regard to specific academic institutions. Vocational training has been heterogeneous and often very basic. Traditional forms such as apprenticeships have been limited to the manufacturing sector and have declined dramatically in number since the 1960s. Forms of school-based training have increased, and secondary school qualifications have gained growing importance as selection criteria in the labor market, especially in the service sector (Windolf 1984). For decades, governments have attempted to upgrade the general level of training. In the case of the *Youth Training Scheme* or *Youth Training* (YTS/YT) programs, which have been introduced progressively since 1983, this has been closely associated with measures to thwart high rates of youth unemployment. Under the title “New Vocationalism,” and as part of market-oriented reforms during the 1980s, efforts have been made to introduce standards for practical and transferable vocational skills, particularly in the form of [*General*] *National Vocational Qualifications* (NVQ/GMVQ), an integrated five-tiered classification system of general and vocational qualifications.

For young people an alternative to any kind of formalized vocational training has, however, always been prominent: leaving school relatively early and entering employment immediately. In fact, the majority of young people finishing school has entered the labor market without any formal vocational training, some acquiring qualifications on a part-time basis parallel with employment (Kerckhoff 1990). In fact, the normative standard has often been a fast transition to the labor market at any cost (cf. Bynner & Roberts 1991). Given the low-

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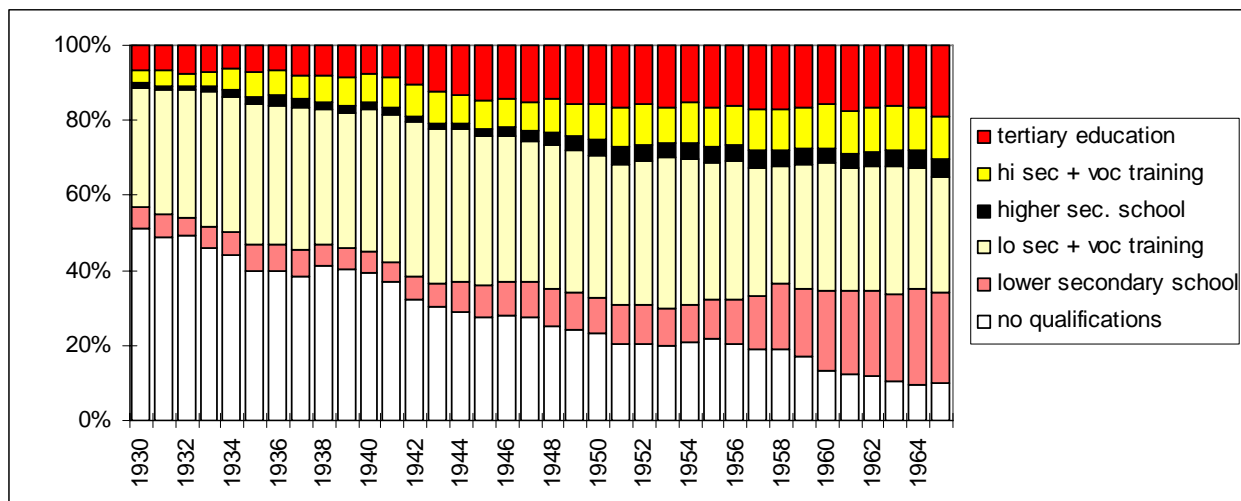
<sup>2</sup>Though not explicitly mentioned in this paper, one should also be aware of important institutional and structural differences among the various parts of the United Kingdom and among the German *Länder*. The examples given in this section concentrate on England and Wales; the discussion of the German system is confined to West Germany.

skill strategies of many British employers (and, formerly, also trade-union influence focused on pay, rather than qualification issues), they could expect to earn reasonable wages despite having received no or only restricted on-the-job training. The consequence of this has been that, despite overall educational expansion, there has been a considerable proportion of persons who have acquired only general school qualifications, if any (cf. Figure 4).

When asking about underlying institutional configurations, one finds that Britain can serve as an example of a “deregulated liberal market economy” that relies more on individual bargaining than on coordination. British enterprises have acted under conditions of high-profit orientation, a lack of mutual trust and a relatively short-time perspective. Therefore, they have often been reluctant to invest in long-term training. Moreover, in a highly flexible labor market, there has been no particular requirement for training as a screening period for future long-term personnel. If one looks at the role corporate actors have played in the regulation of training after World War II, one of the main results is that the trade unions in Britain wanted to retain control over skill formation in the workplace. Therefore, training has been regarded as an issue of conflict in industrial relations, with the employers looking for low-skill strategies where possible, preferring on-the-job training and continuing education, and relying on academically-trained personnel for higher positions. Trade unions had an interest in keeping vocational boundaries, but – even in collective institutions such as the Industrial Training Boards during the 1960s and 1970s (Dingeldey 1996) – showed little interest in a standardized, general supply of training. Not least as a result of such market failures, the UK has traditionally been regarded as having a skill deficit or a “low skills equilibrium” (Finegold & Soskice 1988; Layard et al. 1994). This has led to continuous efforts to reform the skill system, especially during the 1990s.

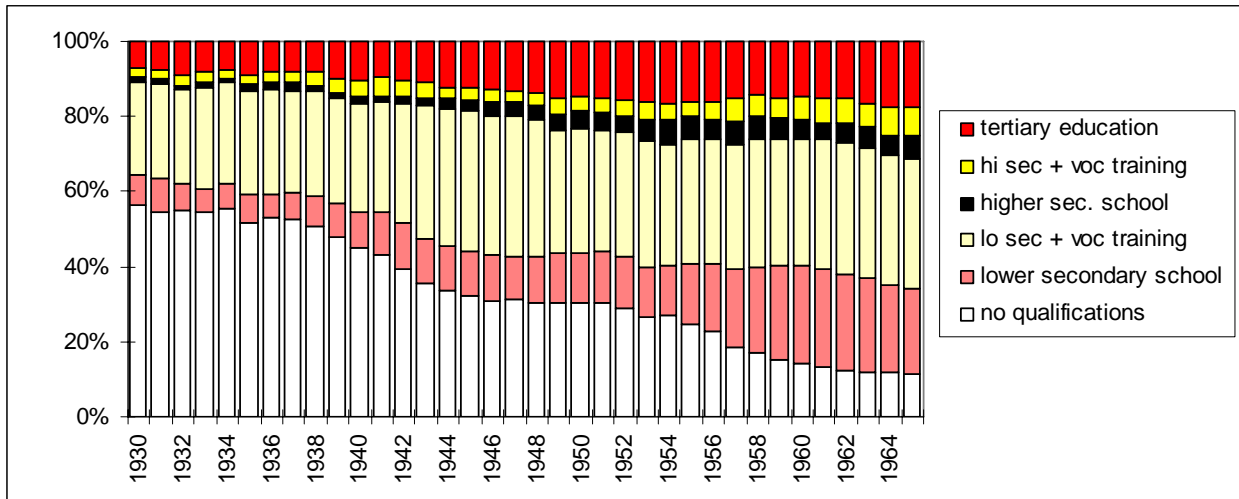
**Fig. 4: Highest qualification of the British birth cohorts 1930-1965**

**Men**





## Women



Data: British Household Panel Survey 1995 (birth cohorts combined in five-year moving averages)

### West Germany

Compared with the United Kingdom, there appears to have been more continuity in the German educational system after World War II. Qualification paths have been clear and well-established, and this has allowed for individual planning with better information and a longer-time perspective than under the conditions of the more dynamic, market-oriented system in Britain (Greuling 1996).

Secondary school education has largely followed hierarchical tracks, and the early selection has gone along with a high degree of social selectivity. Higher education has in many cases been directed to specific occupational fields – especially in technical studies – and relatively standardized. There has also been a hierarchy between the traditional universities and the lower-level institutions of tertiary education (*Fachhochschulen*) that were introduced in the 1970s. While participation in tertiary education has increased, vocational training, in its popular *dual-system* form, has remained the standard experience for most young people, an increasing number of trainees with higher secondary school education being included. Vocational training has been commonly accepted as necessary and has formed the basis for further skill acquisition. Apart from the *dual system*, which accounts for the largest part of training, there have also been school-based forms of vocational training. The German employment system has organized human capital in the form of vocations (*Berufe*), which allow individuals to perform a broad range of related, rather complex tasks and incorporate the concept of a career with prospects on the basis of initial vocational training.

After World War II, Germany also experienced a major educational expansion which actually started before major structural changes were introduced in the educational systems. As Figure 5 indicates, educational expansion across birth cohorts (regarding vocational and higher qualifications) has been especially marked for women who have attained a near equal share of participation in the dual system and whose numbers dominate school-based vocational training.

Using the terms of comparative political economy, Germany comes close to the ideal-typical model of a “flexibly coordinated market economy.” This is generally characterized by corporatist decision making and long-term trust relationships which allow control over free-riding behavior associated with training provision. Centralized wage bargaining in Germany has reduced the possibility of employers offering high wages in order to recruit qualified personnel who were trained elsewhere – thereby saving the costs of internal training. In turn, reducing the probability of “poaching” trained workers has increased the incentive for employers to provide training (Streeck 1989). The corporatist nature of decision making in German industrial relations and strong

associations of both employers and workers have facilitated trust for investments in general skills and have allowed for a longer-time perspective in the actors' decision making. This has been further enhanced by close inter-firm ties, a system of long-term finance and also a successful transfer of technology from the technical universities.

Vocational training has been regulated by legislation relatively late (especially the Vocational Training Act/*Berufsbildungsgesetz* of 1969), but employers have a long tradition of a commitment to a high level of transferable skills, coordinated by intermediate institutions (such as chambers of commerce). The responsibility for training and certification has been shared among different institutions; instructors have been required to meet the standards; and formal qualifications are, therefore, widely recognized by employers. Aside from maintaining its responsibility for the vocational schools, the German state has never really been involved in the provision of, but has played a major role in regulating, vocational training. For the majority of young people finishing school, training in the dual system has been the standard route towards employment at an intermediate level, including occupations in the service sector. Additionally, it is not only the informative ("signaling") capacity of vocational credentials which offers a close connection to the labor market. Though not combined with an employment contract, apprenticeships can already be regarded as entry positions that grant employers a long screening period for future personnel.

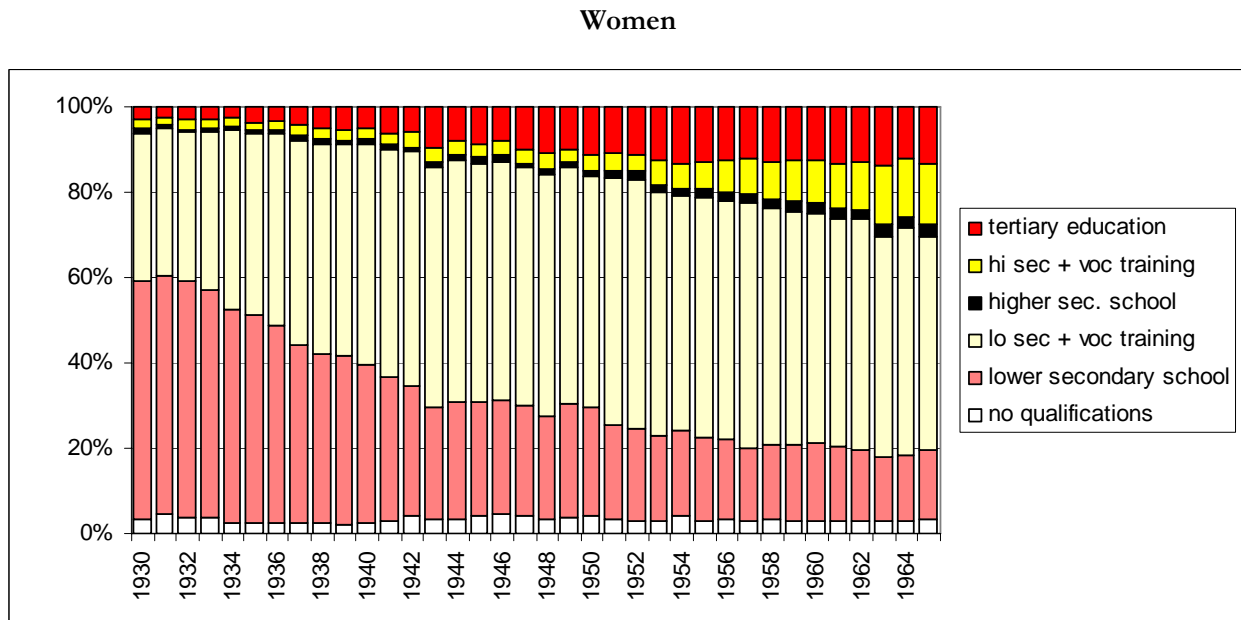
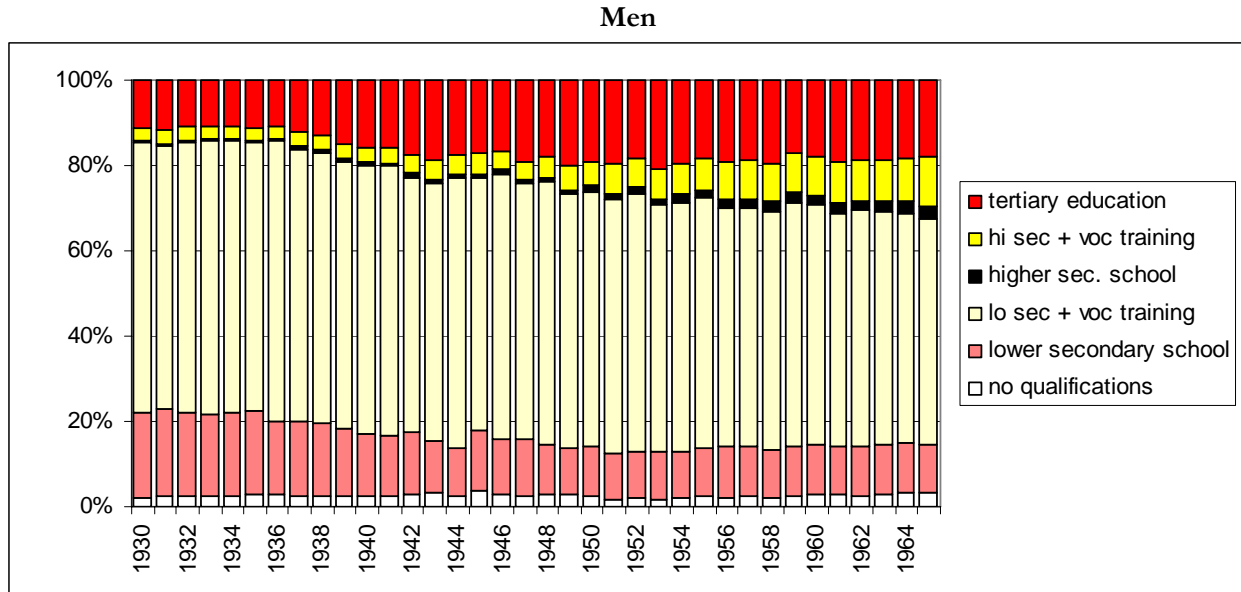
### **3.2 School-to-work transitions and early careers**

This brief overview (for details, see Hillmert 2001) may provide a basis for an interpretation of individual-level consequences. In Britain, criteria such as timing (referring especially to individual age) rather than (occupation-)specific formal qualifications, have ruled labor-market integration, though educational expansion and an increasingly difficult labor market have weakened their importance since the 1960s; the level of educational credentials has always had importance for job allocation. Not least due to the influence of unions, occupational boundaries in many British industries were previously quite rigid. Over the past decades, they have increasingly become weaker, so that the role of specific qualifications is also likely to have further decreased. Legal requirements were traditionally low, and the youth labor market, in particular, was further deregulated during the 1980s (Ashton et al. 1990), so that both an internal labor market and a large "secondary" labor market in the low-wage sectors can be expected (cf. Brown 1990).

In contrast to this, Germany can be regarded as a model for a combination of a widespread skilled occupational labor market with (higher-level) internal and lower-level labor markets (Blossfeld & Mayer 1988). Regarding both education and labor-market policies, institutional change appears to have been much greater in Britain than in Germany, especially since the early 1980s. In Germany the level of education and substantive occupational skills have been major criteria of job allocation. In general, the standardized and (horizontally and vertically) differentiated education and training system in Germany as well as more cooperative industrial relations have allowed for a higher degree of coordination between skill production and employment than in Britain.

Major differences in the transition behavior of individuals in both countries can already be inferred from descriptive summaries (Hillmert 2002). Young Germans have spent longer periods in education and training. The vocational training system has played a considerable role in smoothly integrating young people into the employment system, although waiting times and military service for men have led to extended transition periods, larger numbers returning to education, and relatively late entries into the labor market. There has always been a larger dispersion of ages at labor-market entry, but this has been quite stable across birth cohorts. In Britain, entry into the labor market was, initially, highly standardized with respect to age, but since the 1970s there appears to have been a significant change, with the age differentials rising considerably. This is, on the one hand, due to an expansion and differentiation of higher-level education and training and, on the other hand, to increasing difficulties for young people to find stable employment (Coffield 1995; Roberts 1995).

Fig. 5: Highest qualification of the West German birth cohorts 1930-1965



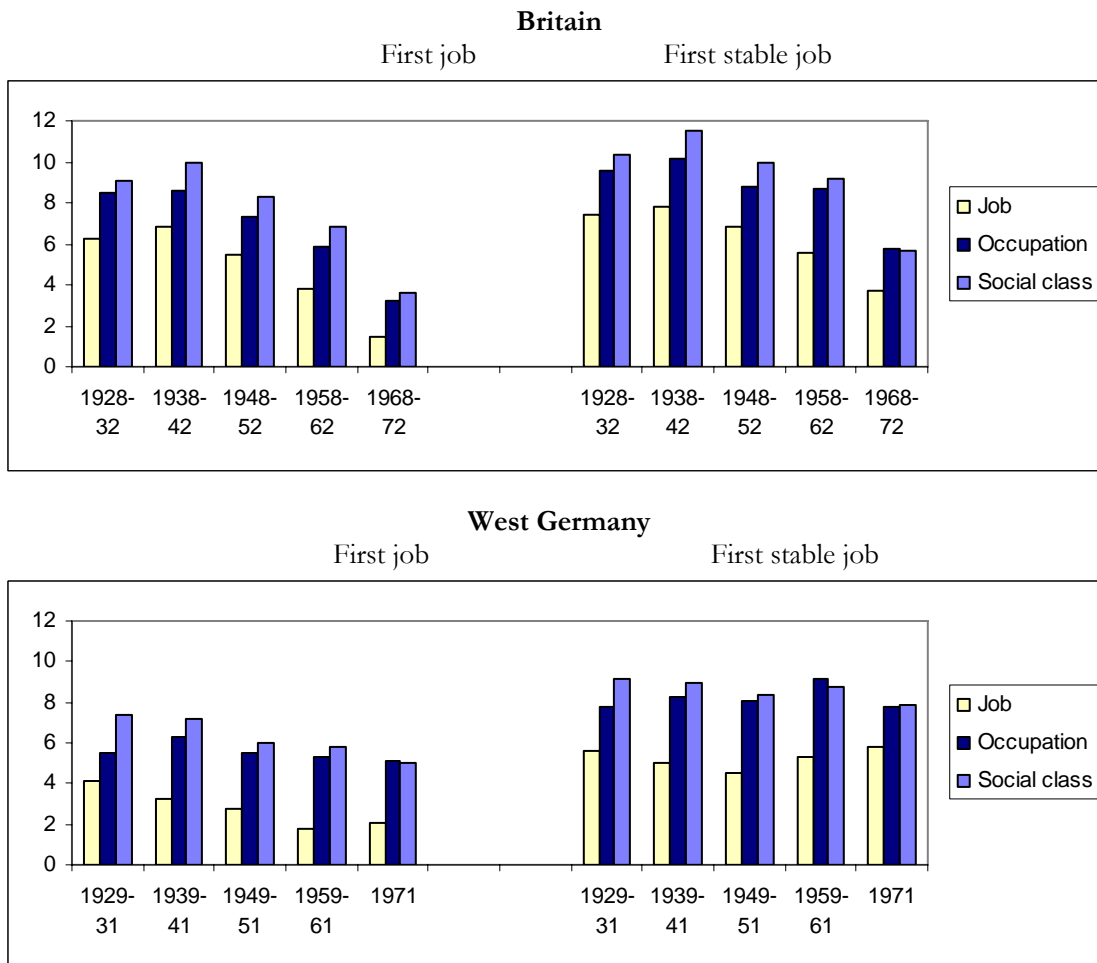
Data: German Microcensus 2000

Another aspect concerns access to particular entry positions. As previous studies on status attainment processes have shown, the association between formal qualifications and social positioning appears to be closer in Germany than in the UK (Brauns et al. 1997; Müller & Shavit 1998). Analyses by Hillmert (2002) have confirmed a stratification of (entry) job positions by formal qualifications for both countries over a longer period of time. In both the UK and Germany, formal qualifications have obviously been an essential condition for entry into skilled work at various levels, but in Germany these differences have been much more significant. For example, labor-market entrants with intermediate vocational qualifications – that is, apprenticeship or the equivalent – have had a significantly lower chance of entering higher service positions compared to people with higher (academic) degrees, even if the public sector with well-defined qualification requirements has become less relevant as the provider of (higher) entry positions in Germany. The relative difference between Germany and Britain is, however, even larger when comparing qualifications at lower levels. So for people with vocational training it has been much easier to gain access to routine non-manual and skilled manual work than for people without any formal credentials (or only with general school qualifications). In general, formal

qualifications have been more important predictors of successful transitions to adequate jobs in Germany than in Britain. Additional analyses suggest that this reflects not only differences in the allocative capacity of formal credentials but also a better coordination of supply and demand for qualifications in Germany and “skill deficits” in Britain. On average, the level of stratification by qualifications appears to have decreased slightly across birth cohorts since the cohorts around 1940. In Germany, however, this process originated at a very high level. Moreover, there has been an increasing difference between the quality of (very) first jobs and first stable jobs, which form part of a longer career. This is visible especially for service-class positions; in many cases, these positions are obviously entered into after previous entry jobs.

The following analyses now look at individual employment subsequent to labor-market entry. Figure 6 displays a cohort comparison of the stability of first employment as indicated by three dimensions: median tenure with first employer, median tenure in entry occupation (2-digit ISCO) and median tenure in entry social class position (11 EGP-categories as defined by Erikson & Goldthorpe 1992), all of them measured in years. These median durations were calculated for a number of successive birth cohorts, whereby “entry conditions” were defined in two different ways: the very first job and the first stable job (with two years minimum duration).<sup>3</sup>

**Fig. 6: Mean duration with first employer/in entry occupation/ in entry class: product-limit-estimates (medians, in years), by birth cohort**



Product-limit-estimations. Data: British Household Panel Study; German Life History Study (cf. Hillmert 2002)

<sup>3</sup>This “stronger” criterion shifts the point of labor-market entry beyond periods of exclusively short-term employment, which may, for example, still represent temporary work episodes during training.

In our case, most interesting is a comparison of the various configurations formed by the three dimensions of employment stability.<sup>4</sup> In the United Kingdom, the median durations have always been closer together, that is, people have been more likely to leave their occupation and social class when leaving their first employer. In contrast, in Germany, the median episodes of entry occupation (and social class) have been much longer than the equivalent entry jobs: on average, people have stayed in their occupation (and their class position) when leaving their first employer. This obviously means that that occupation-specific skills could be transferred between different employers and that strong occupational labor markets do exist. In the British case, human capital has been more closely bound to particular firms.

As one can see, the stability of (very) first jobs has declined across the five birth cohorts that are presented in this chart. For the UK, the trend is similar when one looks at the very first or the first stable job: mobility has increased in all three dimensions, which reflects a major shift from a high proportion of protected employment to an increasing flexibility of the further deregulated labor market. In West Germany, the pattern of the three median durations has been remarkably stable over time, especially regarding the first stable job. However, also in Germany, the phase of entry into the labor market has become more extended and the difference between transitory and stable entry jobs has increased significantly for the younger cohorts. Apart from this period of “settling in,” however, the first position at labor-market entry has proved to be highly relevant for the quality of the further career, although this career is not necessarily bound to the first employer. This indicates that the impact of the level of formal qualifications and occupational labor markets has remained strong, as has institutional regulation. In separate analyses for men, who have more stable careers than women, these results become even clearer (Hillmert 2001). It can be seen that, compared to the time in their first job, most German men remained in their initial occupation for a very long time.

In sum, these empirical indicators suggest that the importance of formal qualifications at labor-market entry has only partly been similar in Britain and West Germany over the last decades. Formal (vocational) qualifications have clearly been more relevant for successful entry and stable early careers in Germany. In Britain, this has been true to a much lower extent with the system of general and academic education being more important than that of vocational training.

### 3.3 Consequences for employers' and individuals' rationales

Decisions of skill investment made by both employers and young people can be regarded to be to a larger degree based on expectations concerning the consequences of qualifications in the labor market. Hence, successive cohorts of labor-market entrants may be influenced in their behavior by the experiences of preceding cohorts. On the basis of the observed developments in the two skill systems between the World War II and the late 1980s, the actors' situations concerning decisions about vocational education and training in the two systems can be summarized in a stylized way.

In *Britain*, a comparatively low level of trust and a lack of coordination among employers have prevented long-term strategies of providing standardized vocational training that would be able to send clear signals to potential employers and successive cohorts of applicants. Given an increasingly flexible labor market and further promoted by the weakening of vocational boundaries that were traditionally supported by (occupation-based) trade unions, the time perspectives of individual actors for the investment in skills have been relatively short. Therefore, no thorough collective upgrading of vocational skills could be achieved. As a means of qualifying for higher-level positions, staying in school (and maybe opting for higher education) was likely to be the preferred pathway for young people who met the demands and selection criteria of the schools. However, for many the desirability to stay in school remained limited as long as reasonable employment chances for preceding cohorts of low-skilled workers signaled lower achieving youth that early dropout was an alternative for them.

In contrast to the British situation, in *Germany* coordination among employers and other social actors, standardized vocational qualifications and institutionalized occupational fields have secured a relatively high level of trust concerning the future value of vocational skill investments and allowed for the actors involved to have

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<sup>4</sup>In contrast to the absolute level of mobility, the relative differences between the three dimensions are probably biased to a minor extent by recall error.

a long-term time perspective. This has provided incentives for both employers and trainees to invest in vocational training (Soskice 1994a). High average occupational stability, observable for a number of successive cohorts, supported long-term investments by both individuals and employers in occupation-specific skills which, under such conditions, obviously had a good chance to pay off. Moreover, this helped to establish it also as a normative standard and permitted the organization of collective interests along these lines. The stratification by qualifications has also been supported by close institutionalized links with various levels of public service employment. Higher education has remained limited as a consequence of a limited expansion of upper secondary education, and the fact that the German production system has heavily relied on vocationally trained workers. While there have been no formal requirements to enter most of the vocational training programs, changes in the general school system have led also to a change in the qualification composition of young people entering vocational training. Training in the dual system has become a reasonable alternative also for higher secondary school graduates, somewhat blurring the established hierarchy between vocational and academic training. This change was certainly enforced by popular pessimistic predictions about the future employment perspectives of higher education graduates.

To sum up, by the end of the 1980s, fundamental differences in the situations that actors within the skill systems of Britain and Germany faced when making their decisions had evolved, which led to the UK being seen as representing a “low skills equilibrium” and West Germany a “high skills equilibrium.” Since then, both systems of skill formation have undergone a number of changes. As the following section intends to show, however, the longer-term differences have still had significant consequences for the more recent developments in the two systems of skill formation.

#### **4. Developments since the early 1990s**

##### **Britain**

The widely recognized traditional British “skill deficit” (Layard et al. 1994) led to reforms on various levels of training during the 1990s. Among the developments was, first, the spread of the NVQ/GNVQ System. While this classification system had been already introduced in the mid-1980s, it was further extended during the 1990s. The basic principles of the NVQ/GNVQ System are modularization and competence-based certification. The idea behind the latter concept is that certification be output-oriented rather than a credit for pure “time serving.” While this system was designed according to practical employers’ needs, critics have pointed to problems of low acceptance and relatively low rates and long durations of completion. The system did not set standards for training procedures (Deißinger 1994), and a further weakness appears to have been deficient examination standards; moreover, a modular system may prevent young people from seeking broader transferable skills (Oulton & Steedman 1994). It seems to be still unclear whether young people are actually in a position to make the appropriate choices necessary and the extent to which this will result in distinguishable skill profiles.

A second reform was the introduction of (*Advanced*) *Modern Apprenticeships* in an attempt to establish new relationships between collective actors. Introduced in 1995-1996, the number of apprenticeship entrants already amounted to approximately 90,000 (increasing) or nearly 14 percent of the youth population in 1998 (Ryan & Unwin 2001). Based mainly with larger employers and also supported by public subsidies, Modern Apprenticeships involve a regulation of competencies, but are also closely linked to employment. They were organized first by the *Training and Enterprise Councils* (TECs) and later the *Learning and Skills Councils* (LSCs). Again, there were no process requirements such as regulations on duration or the methods of teaching. Among the additional critical points mentioned by observers are: still little involvement of many employers; a lack of financial support by employers; problems of initial assessment of entrants; lacking components of general education; informational asymmetry between providers and recipients of training; and, relatively low completion rates below 50 percent (Ryan & Unwin 2001). Traditional major problems of the British skill system – the lack of the power of coordinating intermediate institutions and relatively short-time perspectives associated with decisions of skill investment – could obviously not be solved. Also, given the tradition of early employment without training, there still seem to be age barriers for entering apprenticeship training.

A third part of the reforms had even more the character of a training scheme targeting youth unemployment. This was the introduction of the *New Deal for Young People* (since 1998), a mandatory program directed towards young people who were unemployed for more than half a year. Among others, education and training has been one option that young people could choose within this welfare-to-work program. However, *employability* rather than skills attainment has been the major goal of this labor-market instrument.

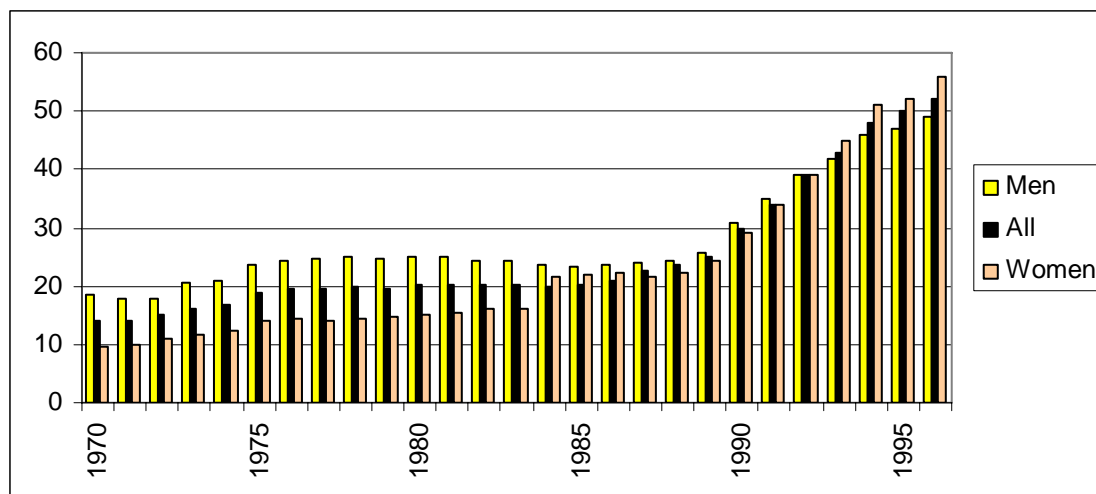
When reviewing the various attempts to reform the system of vocational education and training in Britain, the general impression is that there have been many changes and experiments without finally tackling the deficit in intermediate vocational skills. From the viewpoint of the literature on varieties of capitalism (Hall & Soskice 2001) the major reason for this is that the institutional (context) structure has just not been adequate for this. As a result, young people in Britain were still facing two major alternatives: either staying on the academic route for higher secondary school qualifications and beyond, or getting to work immediately. However, the trend in economic structure towards services (which so far has been more pronounced in Britain than in Germany), and an associated decline in the demand for unskilled manual labor, have made this option less and less acceptable. When the increasing need for a higher skilled workforce became even more urgent in the 1990s, it seemed therefore to be consequential that the UK took an alternative pathway to further attempts of enhancing vocational training: a trend towards mass higher education.

This change in strategy was certainly supported by common experiences of high levels of youth unemployment during the 1980s. Another important step was the introduction of *National Targets for Education and Training* since the early 1990s, where benchmark proportions for particular skill levels were defined. This initiative was put forward by the government, but had actually been pushed by employers and one of their major associations, the *Confederation of British Industry* (CBI). These targets were, in the first instance, directed at secondary education (e.g., for the year 2000, a 60 percent proportion was set for A-levels or GNVQ/NVQ level 3). However, there were important indirect consequences. Many graduates from upper secondary education were likely to make use of their skill investments, and they wanted to progress further towards qualifications at a higher level. As a consequence of this “supply-side pressure,” demand for higher education was rising. In fact, educational expansion in Britain during the 1990s has been remarkable, with about 50 percent of young people born after 1970 holding an A-level degree or above (Smith 2000: 209). Also the quantitative expansion of tertiary education after 1990 was significant (cf. Figure 7).

With regard to academic education, there has clearly been an end to the traditionally elitist character of the higher education system (Halsey 2000). This is especially true for the time after 1992 when the distinction between traditional universities and the polytechnics (established since the 1960s) was formally abolished. The expansion of higher education was not only, but especially due to the former polytechnics.

At first glance, this development seems to be consistent with the arguments in favor of a radical change towards mass higher education as an economic strategy put forward by authors such as Soskice (1994b). In fact, decomposition estimates indicate that while economic growth has been mainly driven by labor productivity, in the UK this productivity growth can to a considerable extent be attributed to an increase in aggregate human capital (see Figure A1 in the Appendix). When looking more closely, however, it becomes clear that the consequences were somewhat different from the original targets. In particular, the expansion did not take the form of school-based training intermediate (technical) skills, but rather within the “soft” subjects on the B.A. level of (new) university training. In this regard, it is interesting to compare the fields of study of British and German graduates of higher education. Students in Germany are much more likely to graduate in technical fields such as engineering (Figure A2 in the Appendix).

**Fig. 7: Estimated gross enrolment rates in tertiary education,<sup>5</sup> United Kingdom, 1970-1996**



Source: UNESCO (various years)

In sum, there is an indication of marked changes in skill supply in Britain during the 1990s. Given the further trend towards a service economy (and also a demographic decline in the number of youth), employers were beginning to change their skill strategies. Having experienced long-term problems with vocational training, they did not opt for the provision of intermediate skills but in favor of graduates from upper secondary school and from institutes of higher education. The ensuing decrease in the demand for young and unskilled workers sent a clear signal to potential school leavers who responded accordingly and now increasingly stayed in school after the end of compulsory schooling. The result was a fairly rapid upgrading in the formal qualification levels attained by young people even in the face of potential over-qualification (Brynin 2002; Roberts 2004). Still, in recent years, at least monetary returns to higher levels of education seem to have been relatively stable (cf. Figure 8). This again indicates that the expansion of higher education was associated with parallel changes in labor-market demand.

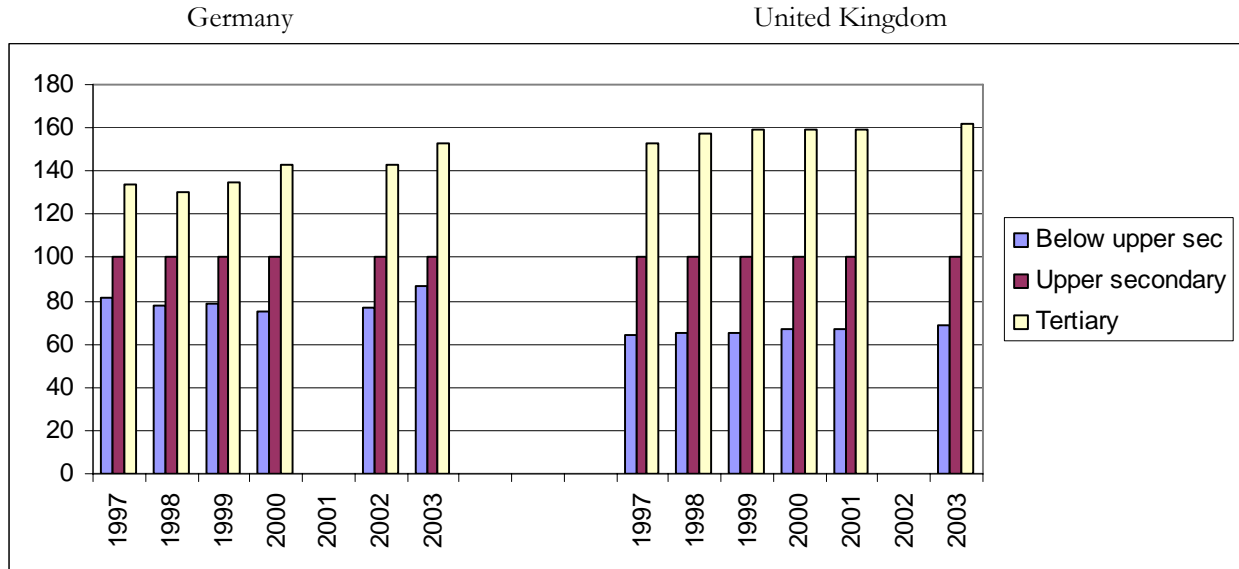
### Germany

The situation in Germany in the 1990s has been different from the British situation. The foremost involvement of employers in the dual system of vocational training, a high level of institutionalized coordination between collective actors, and deeply rooted occupational structures of the German labor market supported a strong emphasis on the creation of medium-level vocational skills as both a collective and an individual goal. The expansion of higher education has remained limited, not least to a limited expansion of the higher secondary school tracks that preselect university entrants. There have definitely been enormous challenges for firms as potential providers of training: increasing international competition with a need to reduce costs and to accelerate innovation, the trend towards services, declining coordination among employers and, moreover, the economic demands following German unification. However, these challenges were to be met within the conventional structures of the skill system. There have been a number of innovations (such as the introduction of new vocational profiles), but structural change in the German education and training system in general has been limited, and participation in higher education had remained relatively stable.

<sup>5</sup>Gross enrolment ratios are defined as: all students enrolled in tertiary education/population aged 19-23. This definition leads to an overestimation of absolute enrolment rates as there are also students of other ages, but in the case of the UK, where student populations have traditionally been rather standardized with regard to age, this estimation may still be useful.



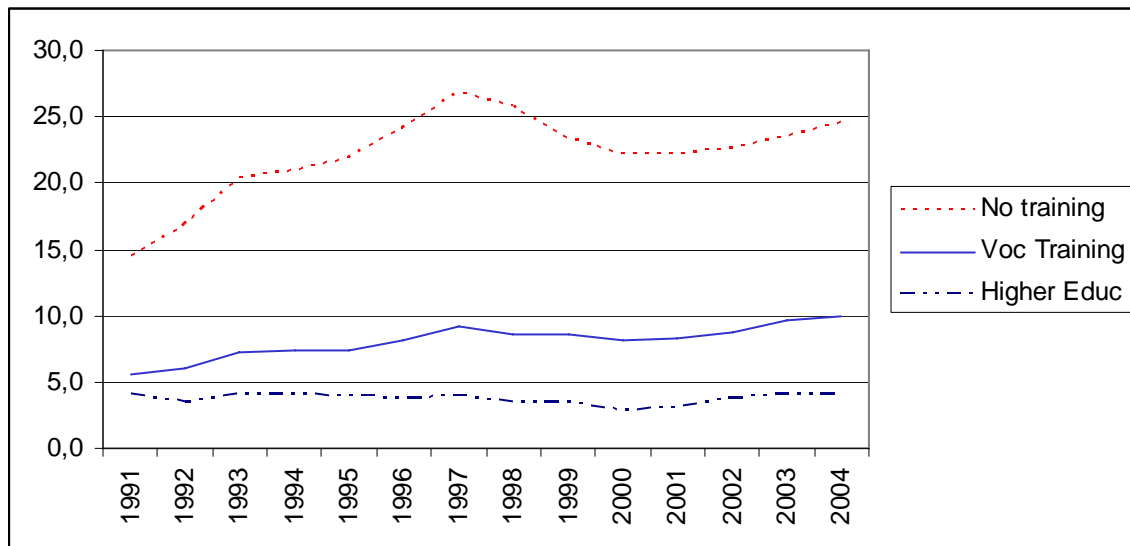
**Fig. 8: Relative earnings (before tax), by qualification level (1997-2003)**



Index 100 = Mean earnings of workers holding upper secondary qualifications  
 Source: OECD 2005 (Data from German Microcensus/British Labor Force Survey)

Over the last decades, the unemployment levels of unskilled workers have been relatively high, emphasizing the relative advantage of vocational training. However, after 1990, there has also been an increasing difference between the unemployment risk of graduates from higher education – whose unemployment rate remained fairly stable – and workers with medium-level vocational training – whose unemployment rate almost doubled (cf. Figure 9).

**Fig. 9: Qualification-specific unemployment rates, West Germany, 1991-2004**



Source: IAB (2005)

While these figures may primarily relate to older workers and (registered) youth unemployment has remained relatively low by international standards, these indicators suggest that the German experience after 1990 is not just an example of “efficient path dependency” of skill production and employment, but that there are also signs of dysfunctional rigidities (cf. also Mayer & Hillmert 2003). They concern not least the core of the German skill formation system, the dual system of vocational training. The central position of vocational education and training within the German skill system makes its successful development crucial for school-to-work

transitions and the overall labor-market situation of German youth. In 2003, nearly one third of young people leaving the dual system experienced at least a short period of unemployment after having completed training (BMBF 2005: 232).

These figures may reflect a worsening of the relative position of these skilled workers in the “labor queue” (in the sense of Thurow 1975) rather than absolute skill deficits. However, there are also other indicators more directly related to the functional capability of the vocational training system. The overall number of training places within the dual system has declined over recent years. While in the 1980s and early 1990s, this was also demographically induced, since then there has obviously been a decreasing willingness of employers to provide training. There has also been an increasing awareness of the heterogeneity among apprenticeships as reflected by very different financial investment and individual employment chances after completion.

Long-term calculations of the number of employed and registered unemployed at various qualification levels (IAB 2005) suggest that since the early 1990s, high skilled jobs were the only category that still expanded, while intermediate skill levels stagnated (or people with intermediate skills were increasingly displaced) and demand for low-skilled jobs showed a moderate decline. Hence, higher education has become an increasingly attractive alternative for young people finishing school (even if the expected wage premium has been smaller than in many other countries). Additional pressure on the system of vocational training comes from the move towards a system of BA/MA courses in higher education in accordance with the *Bologna Process* launched by the European Union.

Open to debate is the extent to which the conditions for the “German model” to operate successfully still exist (Streeck 1997; Culpepper 1999). Some indicators like the fact that a larger number of school leavers from upper secondary tracks do enter apprenticeships seem to suggest that (higher levels of) apprenticeships have in fact remained attractive and capable of adapting. The reported problems of vocational training therefore do not necessarily imply a suggestion for Germany to follow the British way; given the variety of training systems (cf. Lauterbach 2000) and their dependencies on specific institutional contexts, an international transfer of particular elements of skill systems is often unrealistic. However, these problems indicate that the German vocational training system is in urgent need of adaptation.

Special problems for the dual system have arisen especially from the economic situation in East Germany where, as yet, no adequate structure of enterprises that may provide training has been established, and where a good deal of training is state-supported, out-of-firm training. Even when leaving the problems in East Germany aside, scientific observers have mentioned a number of current deficiencies of the German vocational training system. Among them are (Baethge 2003; Geißler 1991; Rothe 2001) the insufficient adaptation to the changing occupational structure (especially in the service sector) and the insufficient “permeability” between general and vocational education. While there is no early differentiation into “vocational tracks” within the school system, there is early selection among secondary school tracks within the general school system which, for many, entails clear restrictions for later stages of training.

The problematic situation of low-skilled youth is further intensified by the fact that an increasing proportion of graduates from higher secondary schools has entered the dual system of vocational training (often in combination with higher education: Hillmert & Jacob 2004; Jacob 2004). While this indicates that (higher-level) vocational training courses have successfully been adapted to contemporary demands, less educated school dropouts are in increasing danger of being displaced by the higher qualified. Measures of requalifying low-skilled and unemployed youth according to an idea of standardized “normal biographies,” as expected by the German skill system, have often proved to be ad hoc, protracting individual transitions (“measurement careers”), and not leading to enduring labor-market integration (Solga 2005). The considerable volume of these measures has certainly masked rising youth unemployment. Moreover, an upgrading of training may cause structural problems of insufficient supply of apprenticeships, especially if small firms cannot meet the higher standards of (more theory-oriented) training within primarily firm-based training.

Given the increasing need for continuing education and retraining along the life course, occupational boundaries as well as the organization of the training system along lines of sectors and industries may present yet another obstacle. So far, a standardized system of high-quality retraining has not been established. Such a sys-

tem would probably be a complement to the existing vocational training system, but rising skill demands will probably also lead to a larger differentiation within the system of initial vocational education and training.

Recent reforms such as the amendment of the Vocational Training Act (*Berufsbildungsgesetz*) in 2005 may have led to some improvements to the problems mentioned. For example, it facilitates crediting pre-qualificational phases in the course of acquiring vocational training certificates. Still, the development of links, as well as the competition between general and vocational education will be crucial for the future performance of the German vocational training system.

### **Britain vs. Germany**

In sum, the 1990s made the different “strategies” to meet the skill demands in the two countries even more explicit.

Britain has experienced long-term difficulties with the provision of (intermediate) vocational training. Therefore, a strategy of a “gradual” upgrading of skills could not successfully be implemented when there was decline in the demand for low-skilled labor and the skill deficit became urgent. In effect, Britain took a more radical change in its skill policy with an emphasis on mass higher education. The “success” of upgrading skills has been mixed, if one takes forms of intermediate vocational training into account, but at least this combination of deliberate political strategies and individual responses has changed the overall skill composition considerably.

In contrast to this, the skill situation in Germany has, at least at first glance, been much more stable. Relying on long established practices and relationships involved in the training process, the German skill system has tried to adapt within the given skill strategy. This has, however, obviously led to rigidities and increasing problems for skill provision and individual labor-market chances especially at the lower quality end of the vocational training system.

### **5. Conclusion and outlook**

This paper has sought to provide a description of actual developments, but it has also tried to illustrate the specificity of an institution-oriented perspective on skill formation. What, therefore, does this perspective tell us more generally in this example?

First, far from reflecting uniform situations and trends in skill formation there is a high degree of *dependency on social contexts*. The structure and the success of skill formation depend heavily on a variety of societal contexts, especially the structure of the labor market, and the effectiveness of the links that can be established between skill systems and these contexts. Since the relevance of skills can often not be assessed without examining long-term consequences, extended life-course developments (especially, employment careers) must come into focus.

Second, there are marked long-term *historical changes* in skill formation. In the British case this applies, in particular, to labor-market related context factors such as the weakening of occupational boundaries and the decline of traditional sectors offering apprenticeships. In recent years, fundamental changes have affected the quantitative composition of various tracks of the educational systems, indicating a change in the dominant strategy of skill formation. At first glance, the very fact of historical change might be perceived as a contradiction of the salience of contexts in the sense of national configurations of institutions. Upon closer examination, however, it emerges that both aspects may be regarded as manifestations of system-specific *historical path dependencies*. Path dependency in this sense is not to be equated with overall stability, but rather with specific developments that depend strongly on previous conditions.

Finally, the question may arise as to which way forward can be expected for the two skill systems, and while it is not the main intention of empirical research to predict the future, some tentative conclusions may be drawn. Economic trends such as further development of the occupational structure towards services and a perceived need for more frequent retraining and life-long learning may make the recent British way of mass higher education increasingly attractive. Together with an international standardization of higher education, this will fur-

ther increase the pressure of adaptation on a training system like the German with a traditionally strong emphasis on medium-level, occupation-specific vocational qualifications. This form of education and training can probably adapt to perceived rising skill demands only if it offers institutionalized links with forms of higher education and continuing education. However, and unlike many popular assumptions, also a collective upgrading of skills will probably not be a sufficient solution to the persistent problem of (youth) unemployment (Crouch et al. 1999). One way or the other, all advanced societies take part in a positional competition of educational expansion, and it is in particular the lower-skilled who will continue to be in need of better-targeted training and social policy.

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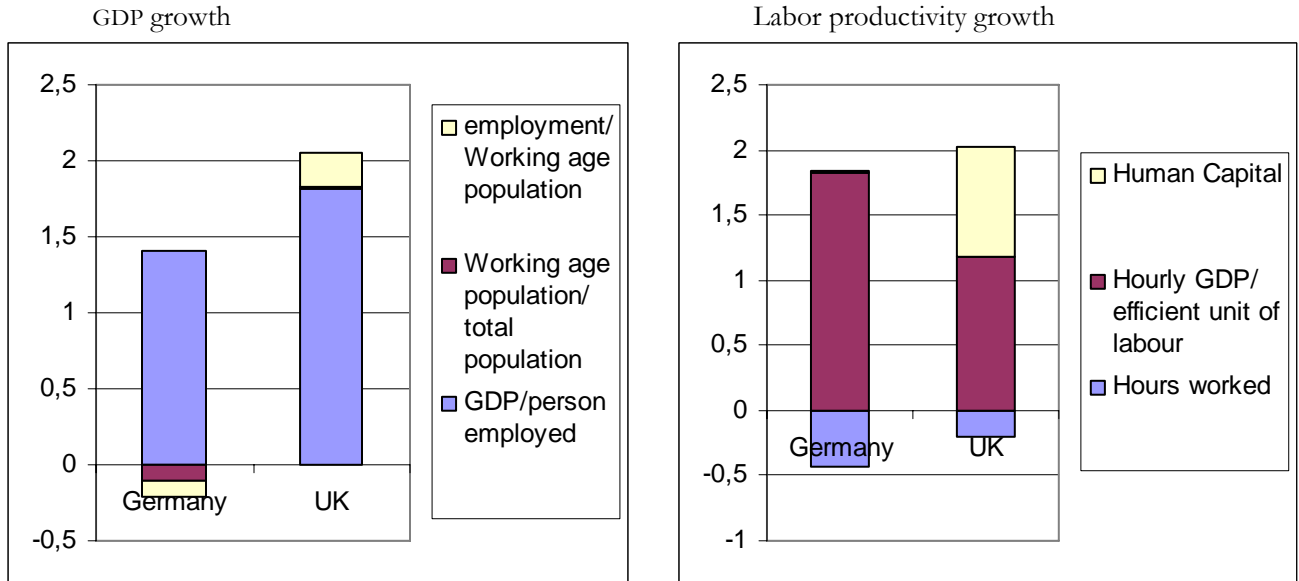
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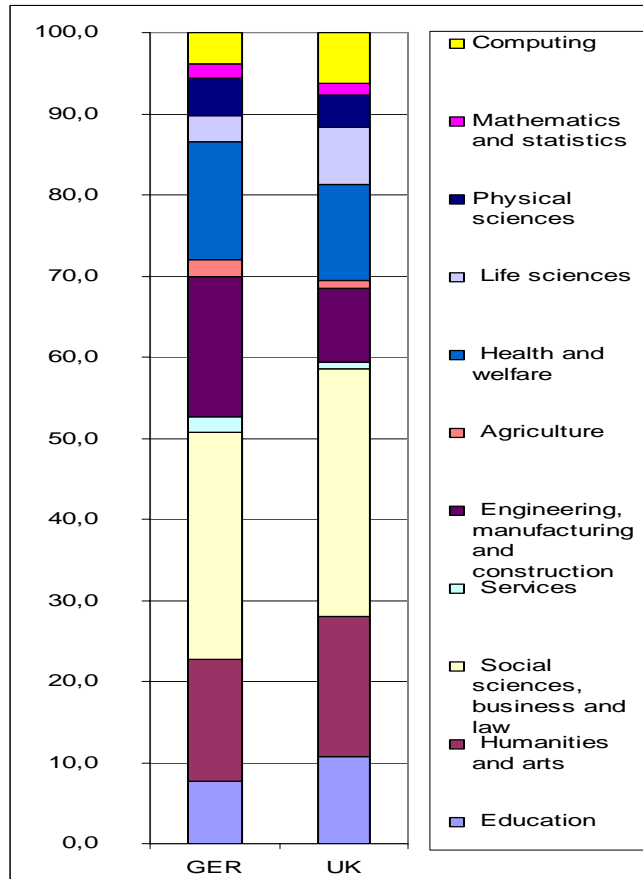
## Appendix

**Fig. A1: Components of economic growth (1990/91-2000)**



Source: OECD (2005)

**Fig. A2: Tertiary (degree-level) graduates (2002) by subject**



Source: OECD (2005)