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Education, Vocational Training and Job Mobility

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AICGS POLICY PAPERS

The series *Policy Papers* demonstrates AICGS' commitment to advancing policy-relevant research using the tools of comparative methodology.

Developments in Germany are of interest because of the country's size, location and history. We need to understand public policy in Germany because Germany is a key international partner and because German preferences will continue to be an important ingredient in the formulation of EU policy regimes. Sometimes German solutions to pressing policy concerns are important because they have a "model" character. This is not necessarily a matter of praise or emulation. Indeed, German solutions may be untransferable or undesirable. Nevertheless, the constellation of institutions and practices that makes up Germany's "social market economy" provides the researcher with an unparalleled real time laboratory in organized capitalism. Over a variety of policy issues, comparison with Germany illuminates advantages and disadvantages of options that would not easily come to mind if the German "case" did not exist. Industrial relations, financial institutions, health-care reform, pollution abatement, intergovernmental relations, immigration, and employment training are just a few of the sectors for which a German component might pay high dividends to policy analysis.

A generous grant has enabled us to establish the Robert Bosch Foundation Research Scholar Program in Comparative Public Policy and Institutions. The following papers are the first to issue from the program.

#1 "Labor Politics and Skill Formation: Germany and Japan," Kathleen Thelen and Ikuo Kume (Northwestern University)

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#5 "Germany's New Long-Term Care Policy: Profile and Assessment of the Social Dependency Insurance," Ulrike Schneider (University of Hannover)

C O N T E N T S

INTRODUCTION

"Germany prepares kids for good jobs, we were preparing ours for Wendy's (Kiester, 1993)." This headline of an article published in *Smithsonian* is a nice example of the U.S. public's strong interest in a German institution that could be called an export bestseller to Wisconsin, New York and Texas—to note a few states that support efforts to implement parts of the German vocational training system in the U.S. (Glover, 1996). Robert Reich, Secretary of Labor in the first Clinton administration, wrote in his book, *The Work of Nations*, that the majority of U.S. youth receives only a mediocre education. The secretary's opinion stands for a wide-spread indictment of the U.S. education and training system for failing to meet the needs of a post-industrial economy. The German vocational training often serves as a role model that is supposed to cure several failures of the U.S. system. What problems is the German system best suited to solve?

The educational system of a society provides general schooling, higher education and vocational training. It forms the central institution that determines how jobs and persons are matched. A person's education is a key factor in determining when and at what point he or she enters the labor market, and it also has a long-term impact on individual careers. Education structures life courses by preselecting young men and women for different paths of job mobility.

American interest in the German training system can be addressed more generally: how can modern societies organize their educational system in a way that the supply of skilled labor meets the demand? To what degree is the preselection for different labor market positions part of the educational system? There is a broad range of possible answers: looking at different countries, very different institutional structures of organizing education and vocational training can be identified. Empirically, the structure of education and vocational training depends on processes of institutionalization that differ across states. Education and vocational training have historical roots, and the institutions are built by corporate actors like unions, employers' associations and governments.

This paper develops a two-dimensional framework that could be used in comparative studies of education and vocational training and their impact on different labor market outcomes. Along the axes of **stratification** and **standardization**, different systems of **general education** and **vocational training** can be classified, and this classification has meaning for different aspects: individual transitions between the educational system and the labor market are affected, and so is job mobility in the long run (Allmendinger, 1989; Allmendinger/Hinz, 1997).

The paper concentrates on the theoretical discussion; however, an empirical illustration shall reinforce the usefulness of the basic idea. To relate the analysis to the current public debate on education and vocational training, illustrative material will be presented from the U.S. and Germany. Both countries vary in their institutions and their labor markets (Soskice 1990, 1994; Schettkat, 1992). Germany serves as an example of an "occupational labor market" with a high skill equilibrium (Maurice/Sellier, 1979), as opposed to the low skill/low wage equilibrium of the U.S. The educational systems are under pressure in both countries—they obviously do not function to match supply of labor with demand at different skill levels. In the U.S., the educational system needs reform to make sure that all students learn at least some basic skills. The discussion about education and vocational training is closely related to the field of social policy: the integration of the non-college youth—the **forgotten half**—into the labor market should be improved. In Germany, the established system of skill formation (*duales System*) is said to impede necessary economic adjustments because it is too rigid and expensive. I will refer to these arguments while presenting recent data about the performance of the two different systems. Additionally, the long-term effects of education and vocational training will be illustrated by life course data from three European countries (Germany, Great Britain and Sweden).[1]

This article is structured into three main parts: (1) I will focus on theoretical questions dealing with the relation between education and the labor market (i.e., problem of **investment**, problem of **transition**, and problem of **openness**). (2) Some empirical **life course data** will be presented to test the validity of a classification of standardization and stratification. (3) The **dynamics** of economic restructuring and the degree of institutional embeddedness will be related to the discussion. To what degree are the central elements of the educational system vulnerable to a changing environment?

[1] In this paper, long-term effects of education and vocational training are analyzed systematically (i.e. within the standardization/stratification framework) only for the three European countries due to data limitations.

THEORETICAL PROBLEMS OF EDUCATION AND VOCATIONAL TRAINING

The empirical variance of schooling and training systems is rather broad. One can find different degrees of selectivity in general education, and one can distinguish school-based, work-based and hybrid forms of vocational training. I suggest analyzing the variety among educational systems along the axes of standardization and stratification (Allmendinger, 1989).

Standardization can be defined by the degree to which the qualities of education and training meet the same standards nationwide. Standardization of general education means that schooling does not differ within one country. Curricula are well defined and exams are the same for all students. Passing a standardized exam automatically gives you access to further education. Standardization of vocational training refers to what employers can expect. Employers can rely on the information to them given by (standardized) certificates.

Stratification is expressed by the proportion of a cohort that attains the maximum number of school years provided by the educational system and by the degree of differentiation within given educational levels (tracking). Stratification affects the match between education and social structure. In stratified educational systems, there is a tight coupling between the educational system and a differentiated occupational structure; in unstratified systems, the coupling is loose.

In Germany the structures, institutions, curricula and leaving certificates are roughly comparable in all the *Länder*: schooling is relatively standardized. Germany has a tripartite educational system. Pupils are selected at approximately age ten for either four, six or nine years of additional schooling. This decision is not subject to review, and later transfers to higher levels are difficult. This stratified educational system—in 1995, only about every fourth student of a given birth cohort attained the highest school credentials—is matched by the *duales System*—that is, a standardized vocational training system. There are well defined occupations with curricula which are trained partly in the workplace and partly in school. Although the training firms have certain degrees of freedom in organizing the work-based part of the training program, all the apprentices of each occupation have to pass the same final examination. Further occupational qualifications (*Gesellen*, *Meister*) can only be achieved if an apprenticeship was successfully completed.

In the U.S., general education is unstratified—in the sense that about eighty-five percent of a cohort receive a high school diploma. However, it is often necessary to pass additional selection

tests when one wants to attend higher education. Colleges do not only rely on their own selection rules. It also matters that the system of schooling is unstandardized. The variance of high school quality is extremely broad—from a very high standard of education in (often private) high schools to a low level in some badly-equipped (often public) schools. Vocational training is unstandardized as well. There is a bundle of programs of vocational training—mostly within the high schools or in community colleges. The vocational high school tracks in practice often work more as a negative selection of students than as a real training experience. As mentioned above some states try to establish vocational programs which involve the participation of employers. These programs, however, have still the character of experiments, they are under permanent evaluation and revision and are far from being institutionalized. Another form of vocational training are internships which also have no common quality standards.

With the dimensions of standardization and stratification, three main theoretical problems of education are addressed: how is the **investment** decision influenced by a different extent of standardization and stratification? How is the **transition** out of education into the labor market shaped by the structure of the educational system? What long-term effects can be identified for different educational systems? In other words: How is the **openness** of a society linked to educational institutions?

Problem of Investment

Human capital theory defines education and training as individual assets. A person's productivity depends on the amount of training and the degree of its specificity. According to the theory, there are two forms of human capital: **General** human capital is a matter of schooling, and **specific** human capital is received through on-the-job training. Individuals make their investment decisions due to a rational calculation. Costs, opportunity costs, expected returns, and different talents are crucial factors in the decision-making process. A stratified educational system clearly marks different levels of educational investment. Teachers and parents decide about the tracks that their children take. A stratified system that requires a tracking decision early in the life-course tends to reproduce the distribution of parents' schooling among their children. However, a comparison of different schooling systems has shown that educational inequality pertains even in a formally unstratified educational environment such as in the U.S. **Unstratified** does not mean **equal**.

Looking at on-the-job training, we face another theoretical problem. **Transferability** of skills creates moral hazard situations. A trainee gets skills that might be used by different employers, while one employer has to pay for all the training expenses. According to human capital theory, employers who train transferable skills are compensated by paying lower wages.

A stratified system of general education may provide signals for trainability. This is easy to illustrate if one considers the age of the students when they leave school. In addition, stratified general education reduces the problem of transferability since occupational paths are more closely linked to school degrees. One conclusion is that unstratified general education requires higher screening efforts for employers. The degree of standardization influences the transferability of skills per se. In a standardized system of vocational training, the completion of occupational training serves as a credential.

A second moral hazard problem exists if one looks at the employers' side. Why should an employer provide transferable training if he or she can profit from the investments other employers make? This strategic situation (referred to as poaching) is a classical free rider problem. Nevertheless, about eighty percent of German firms with more than 500 employees offer training for apprentices and pay average net costs of about $10,500 per year and apprenticeship.[2]

In the case of the German vocational system, the standardized vocational training usually takes two to three years, much longer than is usual for on-the-job training in the U.S. During these years, both employers and trainees invest considerable time and money to train and be trained in specific occupational areas. How can the process of investment into transferable skills be stabilized? How does co-operative action emerge—between employers and employees as well as among the employers? An answer that is motivated by analyses of trust relations would argue that institutions have to reinforce long-term perspectives. Within the employer-employee relation a long-term perspective is created by a clear career system in the internal labor market. It is important that former apprentices are able to enter the internal labor market with prospects of upward mobility. At the

[2] For calculation see: Harhoff/Kane (1996).

beginning of apprenticeships trainees often have a clear expectation of the chances to stay at the same firm. As long as employers can offer long-term career paths within the firms, apprentices have incentives to stay. As Fukuyama (1996) remarks, such a design works only with a high degree of consensus between management and workers and, in turn, enhances labor-management relations even more, leading to a high degree of reciprocity and generalized trust. Standardized systems promote **professionalism**: considerable autonomy and responsibility are given to trainees (and future workers), who share a relatively high degree of pride in their work and a sense of identification with their social class, management, and industry. The employers can use the apprenticeship system as a thorough screening system for long-term employment relations. The young men and women who have completed an apprenticeship do not have to pay high search costs since they know as much about their current employers as they need to decide.

Partly, the current crisis of the German system, which can be characterized by a reduction of applicants for apprenticeships and a reduction of firms offering apprenticeship slots (Mayer, 1996), is based on the lack of long-term perspectives. Organizational restructuring, different hiring procedures and different skill requirements give employees with an university degree the chance to enter the internal labor market at a higher hierarchical level and to block (traditional) internal long-term career paths of apprentices.

Comparing the U.S. and Germany, one has to note that the institutional environments dealing with the problem of investment differ in terms of their time-related character. The German system has a deeper commitment to a long-term relationship. It is more “trust”-based. Standardization and stratification of the educational system cannot be seen as isolated from a broader institutional environment. Institutions once built to reduce the strategic problems of transferability and poaching are interdependent to a high degree.

Problem of Transition

A problem closely related to the time structure of educational institutions is the transition out of education into employment. The educational systems structure this first step into the labor market. Obviously, a work-based vocational training system facilitates a transition into a job for several reasons. (1) Contacts with employers work as network resources. (2) Work-based training creates more realistic expectations about the workplace and reduces the probability of a mismatch. (3) In a

pedagogical sense, work-based training gives young people a sense of the general virtues (discipline) that help in finding employment. The U.S. discussion about reforms of the training system concentrates on this last point—referring to it as "school-to-work transition" (Hamilton/Hurrelmann, 1993).

Standardization clearly influences the transition, since employers will hire applicants with adequate occupational training. From the employee's view, beginning an apprenticeship means a stronger preselection for potential jobs. As argued above, the search costs when the apprenticeship is completed are lower, and employers have lower screening costs as well.

Comparing the U.S. and Germany, Büchtemann et al. (1994) demonstrate that transitional unemployment of young people who are entering the labor market is considerably shorter in Germany than in the U.S. One year after leaving school the unemployment rate for the U.S. is about ten percent, whereas it is four percent in Germany. By its nature, the German vocational training system integrates labor market access for apprentices. As expected about eighty percent of those who have completed an apprenticeship find a job in the occupational field they were trained for shortly after completion. Twelve years after leaving school about sixty percent of the apprentices work in the same occupational field. Evidently, these data fit the "occupational labor market" model of Maurice/Selliers (1979). In the U.S., seventy percent of a school leaving cohort work at jobs without formal skill requirements even five years after they have left school. Most vocational training is done on the job—and often in a very short training period. At the beginning of their careers young employees frequently change jobs. The job search relies on different kinds of information: in Germany, the certificates serve as credentials. In the U.S., the relative importance of alternative sources of information, such as social networks, might be more important.

The result of a comparative analysis shows that German vocational training works as a better **integrator** into the labor market. It is confirmed by empirical studies of the U.S. system that focus on the differences between different high-school tracks (Arum/Shavit, 1995). The risk of unemployment decreases when young men or women take part in vocational courses. Taken together, the findings corroborate the interpretation that vocational training is indeed part of social policy. The work-based system of Germany has a better **social** value because apprentices learn general skills and get socialized to the workplace (Witte/Kalleberg 1995: 312).

Problem of Openness

The previous section pointed out that labor market **entry** is determined by educational degrees. Sociological theory often refers to education as a **sorting machine**, which is key factor in explaining **social stratification**. A stratified general education is coupled with hierarchical points of labor market entry; then, formal education works as a prerequisite for entering certain career paths—this is true across economic sectors within a country with stratified schooling. In Germany, careers in the public and in the private sector depend on the level of general education. Unstratified educational systems lead to a higher degree of societal **openness**. Selection for different school tracks does not take place as early as in more stratified systems and the only negative differentiation is to drop out. The U.S. combination of an unstratified and unstandardized educational system reflects the history of the U.S., where schooling is seen as a matter of privacy and where parents and local communities have greater influence on the schools. Studies show that reform efforts in countries with stratified general education—as in Germany the *Bildungsexpansion*—were successful in so far that the proportion of students with the maximum number of years in school increased. However, the intergenerational openness did not significantly change (Blossfeld/Shavit, 1993). Even for younger cohorts, educational attainment is well predicted by parents' education.

Standardization channels mobility: employees are bound to their occupations. The German system of standardized vocational training holds employees on vocational tracks. Changing tracks means that acquired skills, which are transferable within an occupational field, were lost.

Empirical evidence for the comparison of Germany and the U.S. can be seen in an analysis of earnings-profiles. Büchtemann et al. (1994) report a difference in relative earnings in Germany and the U.S. within a twelve year period after leaving school. The relative difference in earnings between groups of employees with different human capital remains stable in Germany. In the U.S., there is a reduction in the relative distance within the first twelve years after leaving school. Germany seems to be less **open** when the earnings profiles are coupled with educational degrees over a lifetime. However, further analysis (Harhoff/Kane, 1996) shows that overall profiles do not differ dramatically and that a perfect fit of skill requirements and learned skills does not seem a relevant factor in explaining differences in earnings (Witte/Kalleberg, 1995).

The most significant difference is in job tenures. German employees stay with an employer significantly longer than U.S. employees. At the age of twenty-five, about one quarter of Germans

with apprenticeships have a job tenure lower than three years. In the U.S. this proportion is significantly higher (about fifty-five percent) (Harhoff/Kane, 1996). The difference in tenures remains over the life time. Higher rates of job-changes in the U.S. are probably the most important reason for the similar pattern of earnings profiles. Higher job stability in Germany, which is additionally influenced by other institutional factors—i.e., laws which increase the costs for dismissals and make hiring more expensive, a smaller difference in wages between and within industries—could be interpreted according to the long-term perspective as **job security** (Abraham/Houseman, 1992). In the next section I will address the problem of openness more systematically. Openness is analyzed along both dimensions: boundedness and stability.

OPENNESS OF OCCUPATIONAL CAREERS - EMPIRICAL EVIDENCE FROM GERMANY, GREAT BRITAIN AND SWEDEN

The main emphasis of this section is to analyze whether the stratification/standardization scheme is confirmed by empirical data. As defined above, a nation's educational environment is defined by educational and vocational training systems. Occupational mobility is conventionally indexed by the **number of jobs** held over the life course and the extent of **movement within and between hierarchical levels**. Due to limited life course data, the following empirical analysis has illustrative character only and will be restricted to a comparison of three nations[3], Great Britain, Germany, and

[3] All empirical work was done together with Jutta Allmendinger (see: Allmendinger/Hinz, 1997). I thank her very much for all the intellectual support that I received during our research and for the permission to use results in this context.

Because of sparse data on occupational careers, country selection was severely restricted. Even more consequential, internationally comparative data on occupational trajectories of **women** were not available. Because data could not systematically

Sweden. As we will see, the three countries constitute a practical range for studying the interplay between general education and vocational training.

The dimensions of stratification and standardization are applied separately to educational and vocational training. Comparing their relative importance for intragenerational mobility outcomes shows that stratification is primarily relevant for general education, standardization for vocational training (see Figure 1). In stratified educational systems, people exit with school-leaving certificates that differ according to the time spent in general education. Each level of general education is then matched by specific types of vocational training. People with high educational certificates may enter vocational training that is **lower status**, but people in the lower ranks of general education can rarely enter high status vocational tracks without taking a detour back to general schooling to get the **right** certificate, a path that is long and troublesome. Hence, stratification of general education preserves class lines and makes upward class mobility over the life course unlikely.

Figure 1: Stratification and Standardization of Educational and Vocational Training

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cover the issues raised by studying female career trajectories, conceptual work basically excludes the discussion of female occupational careers. **Data considered in this analysis are part of the *Eurocareers* project, directed by Karl Ulrich Mayer. Members of the study group are Paul de Graaf/Ruud Luikx, David Grusky/Larry Wu, Peter Robert, Michael Tahlin, Colin Mills, Robert Miller, Kirsten Ringdal and Bogdan Mach. Specifically, we used tables from the following data sets: German Life Course Study (observation period: 1981-1983; cohorts born 1929-31, 1939-41, 1949-51) Karl Ulrich Mayer; ESRC SCELI (1986; cohorts born 1926-34, 1935-44, 1945-54, 1955-61) Colin Mills; and the Swedish Level of Living Survey (1991, cohorts born 1925-34, 1935-44, 1945-54, 1955-65), Michael Tahlin. All figures reported below are based on information provided by these three researchers, since we did not have access to the data files. Calculation of the ratio number of class positions to number of jobs episodes is impossible. Moreover, distinction between voluntary and involuntary job shifts is impossible.**

Educational Training
('Boundedness') Vocational Training ('Stability')

	standardized *- stable -*	unstandardized *- unstable -*
stratified *- bounded -*	Germany	Great Britain
unstratified *- not bounded -*		Sweden

(Source: Allmendinger/Hinz, 1997)

Let me briefly describe the three empirical cases and the expectations we have about different patterns of job mobility. In Germany, the transition from school to work should be sequenced and **orderly**: the educational system and the labor market fit in their hierarchical structures, and the standardized vocational training does not confine workers or employees to one single employer. In the long run, trainees are bound to one occupational field and have restricted access to further training at advanced levels. The stratified educational system requires that higher education—needed for eligibility for higher vocational training—usually can be acquired only by passing advanced levels of general education. Although stratified general education in itself would allow for downward class mobility, the combination with standardized training—facilitating labor market entry at skilled jobs with long-term perspectives—leads us to expect stability over the work life, with hardly any changes in class positions or occupations. In sum, the German system suggests stable and bounded occupational life courses.

Let me characterize the two other cases by giving a few information about the countries' systems of general education and vocational training. The system of general education in Great Britain hardly differs from the German one. It is stratified and, in 1995, only every fifth student of a given age cohort attained the highest school credentials. Vocational training, however, differs sharply. In Great Britain, vocational training is relatively short and primarily in the hands of firms (Soskice 1990, 1994; Hutton 1995). It thus qualifies as relatively unstandardized. Once acquired, vocational training serves for a single job but not for a lifetime; the time horizon is shorter. New employers are likely to ask for more and different training, again offered within the (new) firm. In the British case, we expect many job changes (because of unstandardized training), no upward class mobility (stratified

school system), and considerable downward class mobility (unstandardized training). In sum, the British system suggests unstable and (upwardly) bounded occupational life courses.

In Sweden, the situation is different again. More than two thirds of each birth cohort attain the highest educational level, thus general education is relatively unstratified. Vocational training is unstandardized, pointing towards unbounded and unstable career trajectories. Because vocational training does not have a *duales System*, as in Germany, there is no occupational labor market and frequent job changes are to be expected. In addition, because of the unstratified school system, class position should be less fixed, as even high levels of qualification are within reach without a need to pass and document certification procedures.

In Figure 1 box 4 is empty: there is no state with an unstratified education system and standardized vocational training. The reasons are easy to provide: If a state invests in broad and extended educational systems, fiscal limitations will steer it away from providing a lengthy phase of vocational training. The age of pupils also matters. If obligatory school age ends at seventeen, a broad vocational training program would lead to labor market entry at twenty or even later.

For empirical analysis, I will focus on two different indicators: the average yearly rate[4] of job shifts and the average yearly rate of changes in class positions[5]. The rate of job changes stands for **stability**, the rate of class changes serves as a measure for the **boundedness** of work trajectories. Do nations differ according to the rate of **job changes** and **changes in class positions**? Figure 2, using the same format as Figure 1 shown above, provides some preliminary answers: panel 1 gives the data for **all** cohorts covered by the three national studies, panel 2 pertains only to fifty year-old men.[6] In both cases, we report the rate of job changes followed by the rate of class shifts.

Figure 2: Rate of Job Changes and Changes in Class Position

[4] We report the **rate** of job and class changes because absolute numbers are misleading as a result of international differences in the "time of exposure."

[5] A **job episode** is defined as an employment spell without change in occupation, occupational level, and employer. **Class positions** were classified on the scheme developed by Erikson and Goldthorpe and available only in a very condensed form: I+II: higher and lower divisions of the service class; III: low service class; IVab: selfemployed outside agriculture; IVc: selfemployed in agriculture; V+VI: skilled workers; VII+IVd: unskilled workers. Because of its very low absolute numbers, class IVc was not considered in our analyses.

[6] The decision to report numbers based on all cohorts was necessitated by the fact that the Swedish researchers did not provide the rate of class changes by cohort. This problem becomes even more evident in Table 1 to follow.

For All Cohorts
Rate of Class Changes
("Boundedness") Rate of Job Changes ("Stability")

	low	high
low	Germany (.13/.07)	Great Britain (.25/.11)
high		Sweden (.23/.14)

For fifty year-old Men
Rate of Class Changes
("Boundedness") Rate of Job Changes ("Stability")

	low	high
low	Germany (.09/.04)	Great Britain (.17/.07)
high		Sweden (.16/not provided)

Source: Allmendinger/Hinz (1997)
Data: Eurocareers, Mayer

When we look at **all cohorts**, the rate of **job** changes over the life course is in line with our expectations concerning labor market consequences of unstandardized (Great Britain, Sweden) and standardized (Germany) vocational training systems. Great Britain (a rate of .25) and Sweden (.23) do not differ much, but the rate is considerably lower in Germany (.13). Although markedly lower than the rate of job shifts, the rate of change in **class** positions over the life course also varies internationally: Sweden has the highest (.14) and Germany the lowest rate (.07) of class changes: in Great Britain we find a rate of .11. Again, results fit our expectations based on consequences of unstratified (Sweden) and stratified (Germany, Great Britain) general education. Differences between Germany and Great Britain are explained by British unstandardized vocational training, which does not protect against **downward class shifts**.

Results for the **cohort of fifty year-old men** are similar: Compared to Germany (.09), the rate of job shifts is higher in Great Britain (.17) and Sweden (.16). Because of missing data on Sweden,

findings pertaining to changes in class positions are limited. The British-German comparison shows marked differences, with British men having a rate of .07 class shifts over the occupational life course while German men have a rate of .04. Again, this result is explained by differential rates of downward mobility.[7]

These findings can be supplemented by the analysis of mobility tables, which again pertain to all cohorts and the cohort of fifty year-old men (Table 1). We consider the rigidity of class boundaries, which is given by the main diagonal of the mobility table, and limit our analysis to three class positions—the higher and lower service class, skilled worker, and unskilled workers.[8]

Table 1: Men Remaining in the Initial Class Position (by Occupational Class)

For All Cohorts

class position	Great Britain	Germany	Sweden
higher service class	82%	92%	84%
skilled workers	40%	59%	46%
unskilled workers	43%	48%	28%

[7]For the **cohort of thirty year-old men** the results are confirmed, mobility indexes fit according to the standardization-stratification. The rate of class shifts in Great Britain is at the same level as in Germany, whereas Sweden has a higher rate of class mobility.

[8] In all three countries, most men are working in these three class positions; for more detail see Allmendinger/Hinz 1996.

For fifty year-old Men

class position	Great Britain	Germany	
higher service class	74%	90%	
skilled workers	32%	56%	
unskilled workers	51%	46%	

Note: Data for Sweden were not provided by cohorts.
Source: Allmendinger/Hinz (1997)
Data: Eurocareers, Mayer

When we look at data pertaining to **all cohorts**, Germany consistently has the highest proportion of immobile workers. As people are protected from downward moves, ninety-two percent of those starting in the **higher and lower service class** also end in this class position. The figures pertaining to Great Britain (eighty-two percent immobile) again can be attributed to a higher **downward mobility** in this nation: close to six percent of those initially employed in classes I and II move to the position of unskilled workers. In Germany and Sweden, we find less than one percent downward moves.[9] The ranking of immobile **unskilled** workers also stays well within our predictions: it is considerably higher in Germany (forty-eight percent immobile) and Great Britain (forty-three percent immobile) than in Sweden (twenty-eight percent immobile). More than in any other class, long-term effects of stratified general education—necessitating additional general education before getting access to higher levels of vocational training—become visible. Results pertaining to the cohort of fifty

[9] In addition, in Great Britain skilled workers suffer the highest risk of moving to the position of unskilled workers (twenty-two percent), while this percentage amounts to ten percent in Germany and fifteen percent in Sweden.

year-old men are limited to Germany and Great Britain and basically support the conclusions given above.

To summarize the work trajectories in comparative perspective: In Great Britain with its stratified educational and unstandardized vocational training system, we find—as expected—unstable work trajectories with many job and relatively few class changes. In Germany with a stratified educational and a standardized vocational system, stable and bounded occupational careers dominate the few job changes and lead to little crossing of class lines. Sweden, with unstratified educational and unstandardized vocational training, has occupational careers relatively unbound by class. This structure is caused by an unstratified educational system and by a higher level of redistribution within society.

What are the shortcomings of the empirical data presented here? I used aggregated micro-level data to identify national types of **boundedness** and **stability**. The results indicate national differences according to the proposed typology, but it is necessary to study individual movements between jobs and occupational classes in detail. Are the underlying assumptions of different national types confirmed on a micro-level analysis? It should be considered that the difference in the overall rates reflect other national peculiarities—like the size of economic sectors, the size of the public sector, social policy etc. In addition, mobility patterns are supposed to be highly dependent on broader institutional contexts of labor market and social policy. They need to be approached in an more integrated fashion.

At first, this leads us to the question where the U.S. should be located in this typology. The U.S. has an unstratified system of general education and an unstandardized vocational training. According to the typology the U.S. is in the same box as Sweden. Have occupational careers similar patterns in the U.S. and Sweden? Müller et al. (1996) demonstrate in their recent comparative study of thirteen countries that Sweden and the U.S. indeed have some similarities regarding occupational placement. Vocational training degrees in both countries do not increase chances to enter the labor force in skilled jobs—compared with chances to start a career in an unskilled job. In addition, probabilities of entering the higher service classes are very similar. In Sweden and the U.S., a degree in vocational training does not matter in this respect. In Germany, completion of vocational training raises chances of entering the labor market in higher service classes (versus the probability of entering the labor force in unskilled positions). Other findings indicate that U.S. society seems rather **open** when you consider

career mobility. Kappelhoff/Teckenberg (1987) report dramatic differences for **long-distance** mobility between the U.S. and Germany. They emphasize that chances for both upward-mobility and for downward mobility are higher in the U.S.

One significant difference between Swedish and U.S. **general** education is the degree of standardization. The Swedish educational system is highly standardized in line with a policy of strong central government. Destandardization in the U.S. education promotes social differences among regions and social classes. Broad variation in the formally unstratified system of general education brings educational inequality back into the picture. Parents seek to pass on the legacy of their social capital via school choice. The importance of standardization for schooling is reflected in the recent discussion about establishing national standards in the U.S. (Ravitch, 1995). Greater standardization is mostly supported to enhance the national skill level, but it also plays an important role creating equal educational opportunities. Moreover, Sweden represents a different welfare regime, as we know from the comparative analysis of welfare states (Esping-Andersen, 1990). Equalization over the life cycle—that means a higher rate of class changes—is promoted via redistribution and an active labor market policy.

INSTITUTIONAL SETTINGS AND LABOR MARKET DYNAMICS

Institutional Settings

There are plausible arguments that the links among the educational system, the labor market, and social policy is overdetermined. This would cause a structural inertia of institutional settings and impede the transplantation of some elements from one institutional environment into another. The German vocational training system and its job placement function are linked with strong labor unions and a corporatist involvement of employers and unions in skill formation policy (Thelen, 1996), which limit the danger of poaching among employers. Industrial relations create a more rigid wage structure, which is responsible for a lower rate of return on job-seeking efforts. Laws make dismissals more expensive than in other nations. Finally, there are reasons of prestige for businesses to participate in the *duales System*—at least on regional labor markets (Harhoff/Kane, 1996).

Moreover, the institutions of social policy have their own time-related characteristics. In Germany, social policy programs can be described as continuous—in contrary, to situational welfare

programs in the U.S. or in Great Britain (Allmendinger, 1994). The German social policy is aimed at securing a given position in an occupational hierarchy in times of unemployment or old age. Educational and vocational policies **match**: Both stress continuity, security, predictability, and trust. The same fit between social policy programs and educational system can be found in nations that mostly employ situational policy programs as the U.S. Here, training is often given on the job, with a limited time horizon and limited security, assuming instability and occupational change. In turn, situational programs are indifferent to occupational life courses. Systems that base their benefits on a snapshot of a given life generate no trust and are not meant to do so.

Labor Market Dynamics

Labor market dynamics make the problems of job mobility more complex. The changing economic situation as well as social trends, i.e., the increasing labor force participation of women, influence the relative importance of education and vocational training. The 1980s and 1990s are said to be a period of ongoing and deep economic change—often related to technological change (information technology) and to globalization. Sectoral changes are probably the most obvious indicators of a dynamic environment for occupational careers. The number of jobs the industrial sector decrease, the service sector gets enlarged.

Let me briefly review the comparison of occupational trajectories for the Germany, Great Britain and Sweden. Economic structures in all three countries deeply changes during the period from 1970 to 1990. In 1970, half of the British labor force were employed in the **service sector**, and by 1990 the percentage was up to seventy percent, the largest proportion of the three countries considered. During the seventies Sweden had about fifty-five percent of its labor force in the services, by 1990 the percentage was up to sixty-five percent. Germany had the lowest proportion of employees in the service sector: in 1970 about forty percent of the German labor force were working in services, in 1990 about fifty-five percent. Crossnational differences become even more visible when we ask about the type of service jobs and where they were created. In Sweden the growth in services was largely caused by an expansion of the public sector—that is, of social and personal services. In Great Britain, **post-industrialization** took place to a higher degree in the private sector. The **industrial sector** decreased most significantly in Great Britain: the percentage of workers in industry went down from

forty-five percent in 1970 to about thirty percent in 1990. This short review suggests that opportunities for structural mobility were driven to by sectoral change.

Sectoral change is a rather general concept when you analyze labor market dynamics. A study of job mobility should include more detailed information about the reasons for ups and downs, for dismissals. Data about the organization should be integrated into the analysis (Mayer/Carroll, 1987): Organizations grow and shrink, new businesses are started, others are shut down. Davis/Haltiwanger/Schuh (1996) report high rates of job turnover due to economic dynamics. Partly, high job mobility is caused by the dynamics of the economy. Economic changes of the 1980s have primarily influenced the opportunity structure of low skilled employees. However, there are signals that career paths of high-skilled employees are jeopardized by organizational downsizing.

Summarizing, further research on job mobility should consider the following aspects:

- Institutional setting. It should be analyzed how different institutions within one country go hand in hand to deal with the problems of investment, transition, and openness.

- Organizational change. Careers are embedded in organizations. We should try to incorporate the organizational development into the analyses of mobility. Often organizational changes might be the most important factor in determining mobility chances. Empirical studies could profit from a multi-level approach integrating the organizational environment into the analysis of mobility.

VOCATIONAL TRAINING: TRENDS FOR THE FUTURE

I started the discussion with a reference to several projects in the U.S. to reform the vocational training system along the lines of work-based standardized training in Germany. We have seen that any reform should consider a broader institutional context. Through his work David Soskice has drawn our attention to the fact that transplantation of single institutions such as vocational training from Germany to other countries is impossible without enormous changes in the function this transplant fulfills in the new site. Similarly, Fukuyama (1996) points to ingrained differences between nations in the way general training, vocational training, and labor market relations come together to

form **high trust** or **low trust** societies. Because social policy is also linked to the system of coordination, successful transplantation of single parts seems even more difficult to achieve. For the U.S., a prerequisite would be to establish a higher degree of standardization—both within education and the existing programs for vocational training.

The German system did work well in the past because it depended on a preselection in the stratified school system and a labor market segment for skilled workers (*Facharbeiter*). As long as these conditions continue to exist the system will perform the matching function. Recent studies discuss a crisis in German vocational training. The system is regarded as too expensive in several ways. Findings show that about seventy percent of apprentices leave the employers who have trained them within five years after the apprenticeship ended (Harhoff/Kane, 1996).[10] From the standpoint of the employees, an investment of three years in a highly specialized but outdated profession might cost too much time out of one's life. In the new *Länder* the supply of apprenticeships is far from meeting demand, and expectations of **orderly** careers are in some turmoil—even in west Germany—due to the economic changes mentioned above. Occupational careers in the future will include more frequent changes of jobs, frequent moves in and out of employment, **bad jobs**, episodes of self-employment.

One inherent change within the German stratified system of education is indicated by an increasing proportion of students receiving the *Abitur*. The lowest level of school completion (*Hauptschule*) lost its traditional character as the regular degree qualifying for an apprenticeship. In the greater cities the *Hauptschule* has become a school for children from a problematic social background, and the children of ethnic minorities, for children of refugees who might leave the country again before they have finished the school. The higher proportion of students on the academic track (*Gymnasium*) reflects an erosion of the long-term perspectives within the German labor market. Career expectations for skilled workers are reduced and the relative return rates for a college degree increased. The overall trend for higher education has a counterpart at the bottom of educational attainment: in a few *Länder* the proportion of young women and men without a finished

[10] The industrial sector shows a lower quit rate (about fifty percent).

apprenticeship increases. This development causes a higher level of youth unemployment that have been under control in the past.

How could German institutional actors react to the changing labor market? There are discussions about changing the specific fit between stratified education and standardized vocational training (Blossfeld, 1992). One possibility for the *duales System* to regain attractiveness would be to increase its permeability. The completion of an apprenticeship should be an alternative way to gain access to higher education. The paths that already exist, which are really more like detours, could become a more regular track to universities. Moreover, vocational training itself is under revision. One possible reform could aim at changing the depth of standardization. The vast variety of occupations could be rearranged into occupational fields containing groups of occupations with similar training programs. This could increase individual's flexibility in reaction to labor markets trends. In addition, retraining becomes a more important issue when we discuss skill formation in a rapidly changing economy.

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