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The socio-political significance of changes to the vocational education system in Germany

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This paper explores the effects on social inequality in Germany of ongoing changes to the employment system and, thus, vocational education. Results based on an examination of the literature indicate that students from increasingly middle-class backgrounds with higher levels of general, rather than vocational, educational attainment are winning the competition for ever-fewer apprenticeships. Progress for women in education is accompanied by relative declines in men's performance on high school exit examinations and does not translate into success in the employment system. Employers are abandoning the corporate-state organization of vocational education. The paper concludes that school degrees are increasingly important for later career opportunities. As a result, the educational system is increasingly stratified, contributing to social inequality in Germany.

Keywords: vocational education; social inequality; vocational–academic gap; gender segregation; corporate-state organization

Introduction

Owing to globalized information technologies and the worldwide distribution and organization of value-added chains and labour cooperation, advanced capitalist countries, such as Germany, are expanding their service sectors and restricting manufacturing, resulting in changes to production processes and the organization of work. Since the 1990s, the employment system in Germany has been undergoing this structural transformation, and its effects can now be seen in the educational system. This paper explores the effects that these changes may have on current and future social inequality in the German vocational education system.

US and UK social scientists perceive the German approach to educating young people without high school degrees and integrating them into the labour market as intrinsic to its welfare state (Estebez-Abe, Iversen, and Soskice 2001; Green with Sakamoto 2001; Thelen 2004). From this point of view, the decline of the so-called 'dual system' (*Duales Ausbildungssystem*) of vocational education as the result of changes in production and the labour markets causes concern, and the outcome has been increasingly fewer apprenticeships.

However, a closer look reveals that the traditional German vocational education system is characterized by structural social inequality, too: the separation between

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general and vocational education, resulting in hierarchical relationships, and gender segregation. As the overall system changes, the traditional structures that reproduce social inequality are weakening.

This paper demonstrates how ongoing changes in vocational education produce new social inequalities due to shifting hierarchical relations between institutions in the educational system. It will first describe features of social inequality in conventional German vocational education. Second, it will explain how changes in the employment system increase social inequality in vocational education. The paper concludes with new questions on the societal status of the general education system and its relation to the employment system.

Traditional features of social (in)equality in German vocational education

Two traditional features of the German dual system play a decisive role in social inequality: the separation between general and vocational education, and gender segregation. A third feature of the vocational education system in German-speaking countries is the corporative-state organization of the dual system, which conveys an ambivalence towards social inequality. On the one hand, the *Berufsbildungsgesetz* (Vocational Education Law) prescribes employer and employee parity in general decision-making, and therefore favours social equality. On the other hand, it permits important exceptions; for example, in assessments where chambers of industry and commerce (*Industrie- und Handelskammer*) – therefore employers – have priority. All three features are undergoing a fundamental transformation due to changes in the employment sector.

Separation between general and vocational education

The German vocational education system's separation from general education is crucial in perpetuating social inequality (Baethge 2007). This separation essentially consists in the devaluation of the content and status of vocational education in comparison with general and higher education (at universities and universities of applied sciences) (Friedeburg 1989).

The division of, and hierarchies in, general and vocational education are systematic and not unique to Germany, as demonstrated in theoretical discussions about the relative value attached to both. Human capital theory (Becker 1970) asserts that people who attend educational institutions longer are more likely to contribute to productivity and hence receive higher wages than those who attend less. Since general education usually takes longer than vocational education, academic graduates are said to deserve better wages than craftspeople. Status-conflict theory (Collins 1979) points to deficiencies in the human capital approach and argues that the different educational requirements for different jobs are intended to reflect the interests of different status-groups, which Kell (1995) calls a system of entitlements. Herrlitz (1995) demonstrates how the German bourgeoisie attempted to keep up with the nobility and to secure new positions by excluding the working classes, who might gain higher status through graduation examinations (*Reifeprüfung*) and university-based licensing examinations (*Staatsexamen*). In the process of industrialization, higher positions were linked with higher educational qualifications, so upward mobility was impossible *inside* the vocational education system and thus rather difficult for the working classes to achieve (Blankertz 1992). This barrier holds true today.

At present, theoretical conceptions of the knowledge society prevail in arguments for the increased significance of knowledge and science in economic productivity and for increasing general over vocational education (Stehr 1994). Qualifying this perspective, representatives of the debate over varieties of capitalism (Hall and Soskice 2001) note the specific German shape and effects of the division between general and vocational education, which result in relatively uniform wages in Germany compared with other capitalist societies, such as Britain. In addition, German employment is characterized by the special term *Beruf* (Schelsky 1965), or vocation, permanent employment in manual trades or crafts that also comprises social contacts, identity, status, and security, but without the elite status of the term *profession* in English-speaking countries. *Beruf* is deeply embedded in the organization, institutionalization, and curricula of the dominant dual system of German vocational education and not general education (Baethge, Solga, and Wieck 2007; Dreissinger 1994). The compulsory one-to-two days per week of instruction in vocational schools do not really reduce this distinction. Vocational school degrees, although officially recognized, do not measure up to the general education degrees awarded by *Hauptschulen* and *Realschulen* because of curricular gaps, such as no German or mathematics classes at all, or status differences, such as specialist English instead of general English classes. This organizational divide between general and vocational education is deeply embedded in German social structure.

Gender segregation in German vocational education

The German vocational education system below the tertiary level consists of three elements: the well-known dual system of parallel on-site training and classes at vocational schools, chiefly in the manufacturing professions (in 2006, comprising 43.5% of all beginning apprenticeships); the school-based system, predominant in health and social service employment (in 2006, 16.8% of apprenticeships); and the transition system, for those still without apprenticeships (in 2006, 39.7%), who, after additional training, are prepared to enter one of the other two systems (Autorengruppe Bildungsberichterstattung 2008). With respect to gender segregation, the relation between the dual system and the school-based system is the most important.

Until recently, the German dual system was clearly male-dominated owing to its roots in the handicrafts tradition (Baethge 2005; Gottschall 2003; Kraus 2006). This masculine culture of work, encompassing vocational qualifications, employment, and lifespan, continued into the era of early industrialization (Liedtke 2007). Women were excluded from vocational education but not employment, serving as unskilled workers (Schlüter 1987). Later, middle-class women developed their own models of non-academic vocational training outside the male-dominated dual system. 'The qualification pathway for the female occupations was mainly based on the concept of "social motherhood" and the foundation of full-time vocational schools' (Kraus 2006, 413). While male vocational education aimed to provide young men with the skills to maintain a family, female vocational training aimed to develop caretakers for the family (Brehmer 1983). Male vocational education was organized by a corporate-state structure, while the female curriculum was not standardized, and a great number of school-based apprenticeship places were offered by private organizations. The male system was characterized by close links with the job market, while the female system had no specific structure (Krüger 1999). These characteristics still have influence.

Apart from conventional gender hierarchies in work and employment, Krüger (1999) concludes (based on a 1985 study by Goldmann and Müller) that young women are less often accepted by manufacturers as apprentices than young men. As Shackleton (1995, 223) puts it:

Girls experience much greater difficulties than boys in obtaining training; for example, they have to make more applications, be better qualified in the first place, accept a training place in an occupation which is not their first choice, be prepared to change their place of residence.

While the quantitative participation of women in the dual system has increased enormously, the proportion of men is still higher: in 2006, 43.4% of all women aged 21 held a dual-system degree, while the men's share was 57.8% (Autorengruppe Bildungsberichterstattung 2008). In 1950, only one-quarter of all apprentices were girls or women (Bundesinstitut für Berufsbildung 2007); and in 1995, the share of women in the dual system was 36% (Baethge, Solga, and Wieck 2007). The number of new entrants into the school-based vocational education system was 31% male and 69% female in 2006, and the gender proportions in the transition system that same year were 57.3% male and 42.7% female (Autorengruppe Bildungsberichterstattung 2008).

While the percentage of women in the dual system is increasing, gender segregation in the different training curricula is nearly unchanged since the 1970s (Ostendorf 2005). While men are over-represented in artisan, mechanical, and electronic sectors, women are over-represented in sales, hairdressing, and medical/dental assistance (Baethge, Solga, and Wieck 2007; Krüger 1999; Shackleton 1995). Lauder's claim that 'gender stereotyping of apprenticeships is prevalent in Germany' (2001, 173) is supported by the latest Bundesinstitut für Berufsbildung (2009) figures on 2006 vocational degrees: only 10.2% of women graduated in technical professions, while 63.6% graduated in the service sector.

The prevailing socialization argument presumes that education for girls is gender specific, so they develop gender-specific interests that guide their career choices (Blossfeld et al. 2009). However, Estevez-Abe, Iversen, and Soskice (2001) hypothesize a gender-hierarchical division of labour. Employers anticipate higher costs for training women.

From a woman's perspective, this means that it does not pay to invest in skills for which there is an abundant supply of males [...] Given the situation, women are more likely than men to invest in general skills. Furthermore, even women who are willing to invest in skill training will rationally choose trades and professions where there are few men. (Estevez-Abe, Iversen, and Soskice 2001, 159)

Since skills acquisition relies on a flexible workforce, women – who are perceived as less flexible than men due to their reproductive and child-rearing roles – are offered fewer opportunities to become employed and socially secure.

Gottschall and Shire (2008, 3) criticize the varieties-of-capitalism literature as 'inadequate for understanding gender-based segmentation' and suggest a move beyond the explanatory role of microlevel firm choices by linking 'the firm-as-actor to an organizational and economic sociological perspective'. Such a perspective might be provided by Lauder, Brown, and Ashton (2008), who depart from the assumption that skill-formation strengthens working-class institutions and power. They observe

that the development of global skill webs by multinational corporations is undermining welfare state institutions.

The dual system is also responsible for differences in the levels of apprentices' earnings, as Kraus (2006) points out, and the relationship between the share of female and male apprentices and the size of the firm where they are trained. 'Women are more likely to receive training with small firms, where they are less likely to be taken on as permanent employees and there are few opportunities for internal promotion' (Shackleton 1995, 223). Furthermore, training in small firms is perceived as poorer than that in large companies. Fewer girls than boys are trained in firms with a works council (Shackleton 1995).

Finally, women are under-represented in the chambers, employer associations, and unions (Kraus 2006). Apart from the state, these organizations are central to negotiating educational and training conditions in the dual system, and the under-representation of women may lead to less gender-egalitarian policies.

The corporative-state organization of the German dual system

The debate comparing different modes of vocational education sees the way a nation organizes it as highly dependent on its leading modes of production (Brown, Green, and Lauder 2001; Culpepper 1999; Estebez-Abe, Iversen, and Soskice 2001). In contrast, Baethge (1975, 2005) emphasizes that the dual system of vocational education in Germany has not developed in response to an economic or technological demand for qualifications so much as with a view toward stabilizing existing hierarchies. Greinert (1994) also sees power and governance as crucial considerations. He differentiates among the Anglo-Saxon system and Japan, which have a 'market-economy system of vocational training' (Greinet 1994, 13); France and Italy, whose predominantly institutional character represents a 'school model' (1994, 14); and the 'state-controlled market model' (1994, 15) of German-speaking countries.

Thelen focuses on the negotiations that created the corporative-state structure of the German dual system, contending that 'contemporary differences in skill formation go back to important differences in the character of the settlement between employers in skill-based industries, artisans, and early trade unions' (2004, 5). German industrialization 'occurred under authoritarian auspices, and the traditional artisanal sector survived as an important corporate actor in apprenticeship training' (Thelen 2004, 22). The state supported this development on political and economic grounds, backing the conservative forces of the artisanal sector as a counterweight to the Social Democrats and a strong labour movement, but also to prevent artisanal apprenticeships from becoming sheer exploitation.

Like the unions, employers' associations were opposed to the chambers' monopoly on apprenticeships but, diverging from unions' demand for a state-governed, public apprenticeship system, intended to provide training and vocational education themselves. The machine industry, which developed a system of industrial training alongside the artisanal system, became an especially strong actor (Thelen 2004).

In 1969 the corporative-state structure of the dual system came into effect. The law was a compromise that gave unions the cohesive national framing legislation they sought as well as tripartite boards at the national and federal levels. However, the compromise also legalized the chambers' supervision of the apprenticeship, which was the former prevailing practice (Thelen 2004). Current law does not prescribe

parity between employer and employee representatives in the chambers, and as a result, their interests are not balanced.

Summary

The separation of vocational from general higher education entails the devaluation of the former but has enabled members of the working class to be integrated into the labour market in large numbers, if not in higher positions. Gender segregation implies the (self-)exclusion of women from certain more rewarded training curricula against the background of social gender hierarchies. The corporative organization has assured working-class participation in decision-making, albeit under employer supremacy. As Shavit and Müller conclude more generally, 'Vocational education and tracking can both provide a safety net and be a mechanism of social exclusion' (2000, 449). The next section relates ongoing changes in production processes and the labour market to these structural features of the German dual system.

Effects of changes in the employment sector on the traditional structures of social inequality in German vocational education

A vast literature describes current changes in the employment sector. This paper focuses on only those that affect structural features of the German dual system. I begin by summarizing them and then specify their effects on each structural feature.

In Germany, as in all industrialized countries, employment is being restructured by a trend towards extension of the service sector and globalized information technologies (Baethge 1999). Even in manufacturing, a number of jobs in the domains of management, accounting, data-processing, research and development, transport, communication, marketing, and sales promotion have a service character (Tessaring 1998), while the traditional component is declining. In 2007, the service sector in Germany received about 70% of the Gross Value Added (*Bruttowertschöpfung*) (Autorengruppe Bildungsberichterstattung 2008); in 1970, it was at about 50%. Technological innovations have changed production processes and the organization of work (Finegold and Wagner 1999; Tessaring 1998). Globalization is characterized by transnational distribution and organization of value-added chains, and affects both manufacturing and the service sector (Autorengruppe Bildungsberichterstattung 2008). The opening of goods, service, and labour markets amid globalized mobility of capital and labour has led to new forms of international labour cooperation (Baethge, Solga, and Wieck 2007) as well as competition (Green with Sakamoto 2001). These trends have accelerated since the 1990s (Baethge 2005), and while they challenge all 'modern' societies, German unification created unique circumstances with the complete collapse of East Germany's manufacturing system (Baethge 2005; Green with Sakamoto 2001; Wagner 1999).

Effects on the separation between vocational and general education

Changes to qualification profiles and fewer apprenticeships have transformed the market demand for apprentices (Baethge 2005; Baethge, Solga, and Wieck 2007). In 1975, 4% of graduates holding the *Abitur* (the higher secondary school certificate) entered the dual system, and 7% entered formal employment. In 2000 those proportions had reversed to 15% and 7%, respectively (Busemeyer 2009). In contrast, in

1975, 59% of *Hauptschulabsolventen* (those with the lesser secondary school certificate) entered the dual system, and 6% entered employment; by 2000 those numbers had dropped to 38% and 3%, respectively (Busemeyer 2009). These figures indicate that the educational background of a large number of apprentices has changed, as more now enter vocational training with a general (formal) education.

Green reports that 'companies are avoiding taking on apprentices and that larger companies are increasingly looking to recruit graduates' (Green with Sakamoto 2001, 82). This 'academic drift' (Green with Sakamoto 2001, 82; Green, Leney, and Wolf 1999) seems to characterize vocational occupations as well, with the result that the vocational and general curricula are becoming more aligned (Green, Leney, and Wolf 1999; Solga and Powell 2008). According to Green, 'existing occupational training profiles have been revised to allow for a broader training' (Green with Sakamoto 2001, 84). Since the traditional separation between general and vocational education implies a hierarchy that renders general education superior, these components of vocational education will probably acquire a higher reputation that could lead to a more differentiated vocational education system. Lehmann (2009) argues that the 'vocation-alization' of academia presents an opportunity for the working classes.

In the future, a new, intermediate level of education may develop, combining vocational with general content (Solga and Powell 2008), as in Sweden and Finland (Young 1993a). Some might recommend it as a way to bridge the gap between vocational and general education (Raffe 2003, for England: Ertl and Kremer 2006; Young 1993b). Others might recommend increasing the duration of German vocational education, which is viewed as much too short. The most likely development is a new intermediate-level examination since most universities still reject applicants from a vocational background if they have not completed the traditional general education school-leaving examination (Mayer, Müller, and Pollak 2007).

Despite our lack of data on the social background of apprentices, the narrowing gap between vocational and general education primarily serves those who hold higher school-leaving certificates, who tend to belong to the middle classes, while impeding those who hold lower certificates, who tend to belong to the working classes. The middle classes enter and occupy yet another segment of education, and *HauptschülerInnen* and those without school-leaving examinations lose ground. They are increasingly denied admission to apprenticeships coupled with fewer and discredited network resources and greater stigmatization (Solga 2008). Paradoxically, the enhanced status of vocational education threatens the working classes.

In conclusion, changing the content of vocational curricula does not enhance social equality because the entitlement system that the educational system both models and serves continues unchanged and does not assure any significant upward mobility.

Effects on traditional gender segregation in vocational education

Changes in the employment sector also cause changes in qualification requirements and qualification profiles (Baethge, Solga, and Wieck 2007; Green with Sakamoto 2001; Tessaring 1998). Demand for a generally and theoretically skilled workforce is higher, as figures provided by Reinberg and Hummel (2004) demonstrate: while unskilled labour made up 38% of the workforce in 1991, the percentage may be as low as 29.3% in 2010. Meanwhile, the proportion of employees in highly qualified occupations and leadership positions is estimated to reach 40.5% in 2010, up from 33.7% in 1991. Since these skills are traditionally acquired in upper secondary schools, girls

are supposed to have an advantage because they participate to a greater extent in upper secondary education and achieve higher marks and better school-leaving certificates than boys do.

In addition, the service sector is expanding as the manufacturing sector is contracting. In 1950, 33.2% of all employees worked in the tertiary, 44.7% in the secondary, and 22.1% in the primary sectors. In 2006, 72.3% of all employees work in the tertiary, 25.5% in the secondary, and only 2.2% in the primary sectors (Statistisches Bundesamt 2008). At the same time, apprenticeships have declined from 51.2% of all first-year vocational education students in 1995 to 43.5% in 2006 (Autorengruppe Bildungsbericht 2008). Offers of apprenticeships in the school-based vocational education area have increased by 22% since 2000 (Autorengruppe Bildungsbericht 2008), mainly due to a rise in human service jobs in public education, health and social work, caring and new media – the former traditionally female areas of vocational education, and the last increasingly accessed by women.

Higher secondary school degrees are increasingly required for participation in the vocational curricula in which most students enrol. For example, in the recently developed new media curricula, the percentage of women is (sometimes far) above 50% (Autorengruppe Bildungsbericht 2008).

A major effect of the changes in the employment sector is the diminished significance of vocations (*Berufe*) and trades (Baethge and Baethge-Kinsky 1998). The 'concept of vocation focuses on the individual's capability to work and act competently in a vocational environment as the overarching aim of vocational education' (Ertl 2006, 112), to which I would add social security and social integration. The trades' loss in prestige is due to increasingly process-oriented company and work structures. The constantly changing range of skills sought today seems limitless compared with the demands formerly made on skilled labourers. Tasks now have to be carried out with the help of theoretical knowledge as well as creativity and aptitude for cooperation and self-organization. Men have lost ground to women in this area, to the extent that the concept of *Beruf* has rarely been applied to women.

The waning import of *Beruf* (Schelsky 1965) has led to a decline in male vocational socialization, or identification with the values, habits, and lifestyle of a certain occupation. Men without or with lower school-leaving certificates used to get apprenticeships and, with them, life chances, and opportunities for men had always been relatively available in the traditional manufacturing sector. To a certain extent, the decline of *Beruf* has had an equalizing effect, as men lose a career path that was never open to women. Unfortunately, as long as most employers perceive women as the primary parent, women will not obtain better opportunities in the employment sector than men, even though they have more experience with flexible work conditions and their qualifications more generally directed. We might conclude that changes in production processes and the labour market lead to gains in certain areas of vocational education for more highly educated young women.

Effects on the corporative-state organization

Ongoing changes in production processes resulting from technological transformation and intensified competition have decreased the labour force. Large companies become lean by outsourcing production components. According to Wagner (1999), the increasing costs of providing vocational training contribute to less of it in-plant. In addition, since the 1990s the work week has shrunk, and 'the reduced working time

has led to a more than proportional cut in apprentices' productive work: fewer total hours, combined with the same time spent on theoretical training, leaves less time for work in production' (Wagner 1999, 49). The greatest source of increasing costs has been higher training wages (Wagner 1999). Taken together, these factors have reduced companies' willingness to train apprentices themselves. As a result, they are opting out of the corporative-state organization of vocational education. Their withdrawal raises concern among unions, which have become the system's ardent defenders.

Thelen and Busemeyer (2008) observe a shift from collectivism toward segmentalism in German vocational training. They argue that institutional transformation of German capitalism is replacing collective obligations to train 'beyond need' with more firm-centred motives. The current policy of privileging the security of the already-employed could discourage or prevent companies from hiring new workers or apprentices. According to Thelen and Busemeyer, those who did not secure an apprenticeship early on may be at higher risk of increasingly irregular or atypical employment as larger firms hunker down and train only for their own needs. Many young people are not finding an apprenticeship and enter the so-called 'transitional' segment of vocational education, provisionally funded by the state to better prepare students for further vocational education (Autorengruppe Bildungsbericht 2008). The crucial disadvantage is that the transitional segment does not provide accredited vocational degrees.

In my view, the new production processes and ways of organizing work that demand different training methods are an as yet unresolved problem for vocational education. In the future, firms will undeniably need educated employees. Vocational education will not only require different curricula but a different organization for apprenticeships to keep pace with the transitions in company structures. In a time when employers tend to segmentalize their companies, and unions face increasing loss of membership because they no longer meet the needs of workers in changing employment structures, the state may have to assume greater responsibility to guarantee at least a degree of social equality and security. Lauder, Brown, and Ashton (2008) have shown how multinational corporations are developing systems and strategies to deploy the higher skills available at lower wages. These circumstances beg the question of how vocational education should be organized in the future and who its future stakeholders will be.

Conclusions

This paper demonstrates that while traditional structures supporting social inequality in German vocational education are declining, paradoxically, new forms are emerging. A significant number of people with and without lower-level school-leaving certificates are losing the struggle for a decreasing number of apprenticeships against candidates with higher school-leaving certificates. This process suggests that school-leaving certificates in general education are becoming requisite for further participation in the vocational education system.

Consequently, educational institutions are changing their relationship to one other. Changes in work processes seem to be weakening the traditional separation between general and vocational education, previously crucial in creating social inequality. As a short-term reaction, middle-class students are replacing the working class in vocational education, affirming status-conflict theories and assumptions of variation

within the working classes (Collins 1979; Lucas 2001). Especially in the area of education, the middle classes have sufficient capital to compel success for their children; nonetheless, they too are struggling and working hard to defend their positions (Ball 2003; Reay 2005). Education is increasingly the precondition for more education. The education system is becoming much more stratified and selective, increasingly shaping social inequality in Germany.

In vocational education today, as social inequality changes form, gender segregation is actually in decline. Women are advancing in both the vocational and general education systems in Germany and other countries. Two disquieting developments accompany this benefit. First, we can observe a relative decline in male educational achievement, raising a new question about gender equality in educational systems. Second, women's progress in education does not translate into success in the employment system, raising new questions about the relationship between the systems. We need a more differentiated perspective, something like the discussion of the varieties of capitalism (Estebez-Abe 2005) and its gender analyses of educational and employment systems in different countries, which might establish that the link between higher educational degrees and achievement in the workplace is only valid for certain social groups in certain contexts.

For nearly 40 years, unions and employers' associations have participated almost equally in the corporative-state organization of vocational education in (western) Germany. As demonstrated, the unions struggled for years to establish this structure, which has been threatened since the 1990s by employers' attempts to restructure it. Current reforms do not really change the dual system to meet the changes in employment systems. The traditional corporative-state organization assured a certain level of co-determination by employers and unions and could be seen as an important element of the German welfare state. The withdrawal of employers weakens it and increases social inequality. Furthermore, the employers' departure also adds to social insecurity since traditional transitions from vocational education into the labour market (mainly for men) are in decline. Important questions for the future are: How can people be trained for new, co-participatory forms of employment, and how might these be constituted in ways that are socially constructive?

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