

Employer Cleavages in Coordinated Capitalism:

The Politics of Skills in Austria and Switzerland

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Abstract

Skills systems occupy a central place in comparative political economy. Yet the work on varieties of capitalism lacks a foundation either to describe or to explain the differences among coordinated market economies, and it is silent about the political drivers of change within such systems. This article proposes that the most relevant political cleavage within coordinated market economies divides large employers, who favor higher skill levels, from small employers, who prefer minimizing the costs of the training system. The article shows that the indicator of tertiary vocational training is a more reliable index of skill generality (or specificity) than measures that privilege only secondary school training. Using a comparative case study of the historically and economically similar skills systems of Austria and Switzerland, the article shows how this cleavage has animated the direction of political change throughout the postwar period. Large employers have pressed successfully to develop a tertiary training system closely articulated to apprenticeship, while small employers in Austria have succeeded in marginalizing tertiary vocational training, thus protecting the cheap labor they procure through apprenticeship.

Introduction

Institutions of vocational training now occupy a central place in comparative political economy. Scholars contributing to the literature on the varieties of capitalism argue that historical conflicts over skill provision systems have had a substantial impact on the continued institutional divergence of modern political economies (Thelen, 2004; Iversen & Soskice 2005). There is widespread agreement among scholars that the skills systems of most liberal market economies (LMEs), such as the United States and the United Kingdom, differ in predictable ways from those of coordinated market economies (CMEs), such as Germany and Japan. (Hall & Soskice, 2001, Yamamura & Streeck, 2003). The training systems of the coordinated market economies are heavily oriented around firm-based training—notably but not exclusively through apprenticeship systems—and the skill sets they confer are said on average to be less general, or more specific, than in the liberal market economies (Soskice 1994). If employers optimize their production processes around such skill sets, they then become a powerful political constituency for educational and even social policies that protect investments in such specific skill sets (Estevez-Abe, Iversen, & Soskice, 2001). The drive to protect skill specificity, it is argued, is a central element of how employers define their own economic and political institutional preferences.

A problem arises, though, when we no longer compare coordinated to liberal market economies, but rather try to explain—or indeed, even describe—variation in the skills systems of coordinated market economies. Because skill systems are technical and uninteresting to most political scientists, the veneer of agreement over the difference between CMEs and LMEs effectively obscures the fact that these scholars do not agree among themselves how the skill systems of coordinated market economies differ from each other, nor how we might assess

changes in CMEs (Crouch, Finegold, & Sako, 1999; Yamamura & Streeck, 2003; Streeck & Thelen 2005). The work of Kathleen Thelen (2004) has shown that divisions between industrial employers and the artisanate during industrialization were crucial in determining the shape of the German and Japanese skills systems. Employers came to demand systems of firm-based training that would later be key to the functioning of coordinated capitalism not because they agreed among themselves as to the ideal system, but because industrial employers wanted to wrest control of skill provision away from the artisanate to develop the labor they needed. The literature on varieties of capitalism, which underlines the political importance of employers, lacks an analysis of why such conflicts among employers might break out in contemporary CMEs. We have no theoretical reasons to explain why some coordinated market economies produce more specific skills than others, or why their skills systems change over time; we even lack a reliable measure of skill specificity.

If skills systems are in fact central to comparative political economy, these are significant failings. This article contributes to remedying these failings by developing a theoretical account of skill preferences within coordinated market economies that emphasizes the differences between small and large employers. In short, the argument is that large firms demand higher level skills: they are skill-sensitive. Small firms, in contrast, primarily want to limit the costs of the skill system: they are cost-sensitive rather than skill-sensitive. This cleavage is especially apparent in the politics of upper-level vocational training in the coordinated market economies, because it is here that some of their most important variation is to be found. Indeed, this article argues that the indicator of tertiary vocational training—equivalent to that of American community colleges—proves more reliable than measures slanted toward secondary vocational training in predicting the skill clusters that we observe in advanced capitalism.

The divergent skill preferences between large and small employers plague employers' associations in coordinated market economies, which are caught between the conflicting demands of these two constituents.¹ It is especially where the structure of employer interest representation is heavily biased in favor of one of the other of these groups of employers that we might observe the impact of this difference between employers on outcomes. Austria and Switzerland provide such a useful methodological contrast. While they share small size, large exposure to the international economy, and the dual apprenticeship system, large firms dominate the Swiss employer movement and political economy, whereas small firms dominate employers' organizations in Austria (Katzenstein 1984). This difference explains why, starting from a similarly low base in the 1950s, Switzerland has moved much further toward promoting general skills through tertiary vocational training than has Austria. As they responded to the demands of technical change in the 1960s and later, large firms in Switzerland drove the switch to a more general skills system through their promotion of tertiary vocational training experiments, while small firms in Austria thwarted such a move.

The next section of this article explains why small and large firms have different skill interests in a CME, while the third part develops the argument for tertiary vocational training as a good indicator of skill specificity. Part four justifies the comparison of Austria and Switzerland on methodological grounds, and the following section compares the evolution of vocational training in these two countries during the postwar period, showing that the divergence between their skill regimes has been driven almost entirely by the large firm/small firm division. The sixth part shows that the formal introduction of Fachhochschulen did little to change the skills legacy that was determined by developments in the preceding decades. The final section

concludes with the implications of the cleavages between small and large firms for future research in comparative political economy.

Why Firm Size Matters for Skill Preferences

The institutional comparative advantage of employers in coordinated market economies is the ability to pursue incremental innovation, and this fact profoundly influences their skill needs (Hall & Soskice, 2001). The ability to engage in incremental innovation depends on the capacity of companies to develop industry- or firm-specific competencies on top of a high level of general skills (Streeck, 1991; Soskice 1994). Indeed, one of the aspects that first drew the attention of political scientists to the dual apprenticeship system of the German speaking countries is that it persuades companies to invest in *general* skills through firm-based training while convincing individuals to invest in their own prior general education in secondary school (Finegold & Soskice, 1988; Streeck 1992; Soskice 1994). The particular industry- and firm-specific skills developed through the educational systems of CMEs often depend on procuring this high initial level of general skills. The fact that companies in CMEs require general skills in order to create the industry- and firm-specific profiles on which their comparative advantage depends has been neglected in the recent focus on skill specificity (Iversen & Soskice, 2005). The politics of skills concerns both the *level* of skill and the *generality* of skill.

All firms want to pay as little as they can for employee training. As Gary Becker (1964) observed, companies are especially loath to pay for skills that employees—who can leave at any time for a different job—can use at any firm. General skills are those that are entirely transferable; industry-specific skills are those of use to multiple firms in one industry; and firm-specific skills are useful only to an individual company (Estevez-Abe, Iversen, & Soskice, 2001).

As anyone who has actually tried to get a job knows, though, employers never care only about the *specific* skills of a potential hire; they also care about the general skill *level* of a prospective employee. Does the potential employee have the general education necessary to learn the firm-specific skills required for the job?

The obvious fact that general skill levels differ has important implications for the different preferences of large and small firms in coordinated market economies. The higher the level of technical, specialized (specific) knowledge an employer needs, the higher the general education demanded by that employer. There are good reasons to think that large firms invest more than small firms in the development of skills in CMEs.² We know from the pioneering theoretical work of Soskice (1994) that the German apprenticeship system works differently at large firms, which have lucrative internal labor markets, than at small firms. Large firms invest large sums per apprentice and tend to have a very high retention rate for the apprentices they do train, which is consistent with their significant investment in those apprentices. Small firms make little, if any net investment, in their apprentices, and the rate of turnover among apprentices is much higher at these firms (Wagner 1999). The data presented in Table 1, below, show that the largest German firms spend 15 times as much per apprentice, per year, as do the smallest German firms. Large firms use apprenticeship and invest heavily in it because it confers firm- and industry-specific knowledge at the same time that it confers more general skills, when the apprentice receives a low wage and imperfect labor markets would exacerbate the costs of hiring lemons in regular contracts and training them only in company-specific skills (Soskice, 1994, pp. 44-7; reference omitted). This combination of skills taught at a high level is a necessary component of the strategy of incremental innovation (or diversified quality production) pursued by German large firms (Streeck 1991; Hall & Soskice, 2001).

[Table 1 here]

German small firms, like those in other CMEs, are much less concerned about either the high level of general skills of their entering apprentices or the adjustments to company-specific organizational processes that goes on at German large firms. They need both lower general skills and lower specific skills than their large, technologically advanced brethren. In short, they need a lower level skills, and they are much less willing to pay for skills beyond what they need, whether they are general or specific. Small employers in the German dual system, thus, behave in the way that Gary Becker suggests they should: only paying for the skills they need for production. The elaborate occupational qualifications taught through the German dual system teach broader skills than many of these small firms need, and the small firms resist paying for them. Small firms have greater cost-sensitivity than large firms to the costs of conferring extra (general) skills. Large firms, which can fall back on correspondingly greater resources, are less concerned with paying for extra skills they do not need than with ensuring they get the minimal skill level necessary to hold onto their international market niches.

This is essentially a tradeoff between costs and skill level in coordinated market economies, and it is one that divides small employers (who are more cost-sensitive) from large employers (who are more sensitive to skill-level) (Wagner, 1999; reference omitted). Where employers are the dominant voice in the politics of vocational training, which they usually are, we should expect to see conflict between these two groups, and we should expect the more powerful group to impose its preferences on the less powerful group. We should expect the behavior of companies in apprenticeship—the dominant form of secondary education in Austria, Germany, and Switzerland—to be a good predictor of how companies of different sizes will

view vocational training more broadly. Empirically, we expect small employers to oppose any measures that increase the general skill content of training or those that would attract apprentices to pursue further training. Each measure effectively increases the costs of apprenticeship training for the small employer, either by reducing the time the employee is working on firm-specific problems or by reducing the supply of post-training apprentices, driving up the wages of those who remain. We expect small employers to support measures that retard movements from vocational education to general education tracks for the same reason. Although they have no reason to advocate the growth of universities, small employers will prefer the expansion of universities to the expansion of tertiary vocational training, because it is harder to move from the vocational track to the university track. Small firms, in short, will fight, first, to secure the continuity of a vocational secondary track and, second, to oppose building connections between it and the rest of the educational system.

Large firms, on the other hand, will want to secure the general level of education consistent with their continued ability to innovate and compete in international markets. Their preferred means of expanding higher education will be to keep it closer to the needs of the economy, so vocational education will still be preferred to general education. However, unlike small firms, large firms will want to expand the scope of tertiary vocational education and increase the ability to move between tracks. This is partly because they want to be able to attract young people with solid attainments in general education: as the level of tertiary education rises, large firms increasingly want to be able to attract students who might be tempted by higher education (perhaps after an apprenticeship). Large firms will therefore favor measures that will keep the educational system close to the needs of the firm (unlike in liberal market economies),

while making it attractive to students who may want spend time in general or higher vocational training.

Measuring Skill Specificity

Despite the attention that vocational training has received as a principal institution of advanced political economies, there has been little work on how to measure the skill profile of individual countries in a comparable fashion across countries.³ Virtually the only existing attempt to develop a cross-nationally valid indicator of the specificity of skill provision systems, devised by Estevez-Abe, Iversen & Soskice (2001), is vocational training share (VTS), which depends heavily on the share of secondary school students enrolled in vocational training.⁴ On some levels this makes sense: by the very definition of the terms, we expect vocational skills to have a narrower (more specific) ambit of application than general skills. Students who specialize early in vocational training stop the acquisition of general skills earlier than their peers who are more likely to be enrolled in general education institutions.

The problem with the VTS measure as an index of skill specificity—where more VTS should equal more skill specificity, *ceteris paribus*—is that it fails to distinguish between secondary vocational education that leads directly to the labor market and that which leads to higher-level (tertiary) training. It seems reasonable to claim, as the use of the VTS measure implicitly does, that those countries with lots of terminal secondary vocational education have more specific skill profiles than those where secondary general education leads on to tertiary (post-high school) education. Yet for many countries, *substantial secondary vocational training leads to substantial tertiary vocational training. Thus, secondary vocational training is providing the general skills necessary to succeed in the tertiary educational system.* All those

countries where high secondary vocational training leads high tertiary vocational training should have *more general* skill profiles than those countries where vocational training is highly developed at the secondary level only.

Estevez-Abe, Iversen, & Soskice (2001) assign countries to four separate skill categories: general skills countries (US, UK, Canada, Australia, New Zealand, and Ireland); industry-specific skills countries (Norway, Finland, Belgium, Netherlands, Switzerland, and Denmark); industry- and firm-specific countries (Sweden, Germany, and Austria); and firm-specific countries (Japan, France, and Italy). Interestingly, their quantitative indicator (VTS) does not support their assignment of countries to these four categories. The table below uses the country clusters designated by Estevez-Abe et al. themselves, arraying them on a single-dimension running from most specific (least general) to least specific (most general). Among the three countries designated “most specific skill” countries by Estevez-Abe et al.—Japan, France, and Italy—*only Italy scores high on their vocational training measure*. If vocational training share is a valid indicator of the specificity of skill conferred by national skill provision systems, all three of these countries should have very high VTS scores. Instead, Japan (with 16 %) has the lowest score on vocational training share of all the non-Anglo-Saxon countries; France (with 28%) sits in the middle of the rankings, and only Italy (with 36%, fourth highest in the 18-country sample) ranks high on both vocational training share (the measure used by Estevez-Abe et al.) and skill specificity (the categorical concept used by Estevez-Abe et al.). A reliable indicator of skill specificity would decrease monotonically moving from left to right (most specific to least specific) in this table. Clearly VTS does not. VTS depends heavily on the share of secondary school students enrolled in vocational training.⁵ Almost the only important thing this measure tells us is that all the Anglo-Saxon countries do not have significant secondary vocational

education systems, which is true but not surprising. It is only the very low rate of apprenticeship training in the Anglo-Saxon countries (all located in the “most general” box) which gives this measure plausibility.

[Table 2 about here]

The VTS measure fares poorly as a predictor of skill specificity because it fails to pick up (and indeed obscures) one crucial difference among countries with regards to skill specificity: whether or not students broadly continue on to tertiary education (i.e., beyond American high school level) after completing secondary school. A tertiary educational certificate, vocational or general, presumes a sufficient level of “general” skills (often math and literacy) to get into tertiary education. People invest in tertiary education, through direct costs and wages foregone, because they are investing in increasing their (general) human capital. They would not make this additional investment beyond a secondary school certificate unless they thought they were increasing their likely returns on the labor market; and that usually depends on having skills useful to multiple firms. In an imaginary world consisting purely of graduates of (general) skills high schools and graduates of (specific) vocational skills programs at the tertiary level, the graduates of the latter program would have the more general skills, because they have acquired all the (general) skills necessary to move from the secondary to the tertiary level plus additional tertiary education. *Other things equal, more tertiary vocational education is a sign of more general human capital.* The two countries with the highest proportion of an age cohort enrolled in vocationally-oriented tertiary programs in 1995 were Canada (39%) and the United States (31%), archetypal liberal market economies.

Readers who remain skeptical should consider the following observation: Italy and Sweden had the same total vocational score (36%) in 1995, when we combine enrollment in secondary and tertiary vocational programs. In Sweden, 34 % of all vocational training enrollment was at the tertiary level, while 66% percent was in secondary schools. In Italy, only 3% of all vocational training enrollment was at the tertiary level, while 97 % was in secondary schools. These two systems, I submit, will have significantly different skill profiles as a result. The table below clusters countries into groups based on average participation in tertiary vocational training (TVT) in 1995. It is worth pointing out that three of the countries often classified as having specific skill systems—France, Japan, and Switzerland—all had the largest proportional growth in TVT between 1980 and 1995, and all would have been ranked in the “most specific” category between Denmark and Germany in 1980.⁶

[Table 3 about here]

The purpose of this demonstration is *not* to claim that TVT is an unproblematic measure of skill generality. TVT is, however, a clear improvement on VTS as an (inverse) indicator of skill specificity, and there are reasons to doubt that the quantity VTS is tracking in an economy is the specificity of the skills its educational system produces. We need to focus both on skill levels *and* on training type in determining the assignment of skill specificity scores.⁷ TVT captures this element much better than VTS, and future research on skills systems and their political impact should devise composite measures that can improve on the ability of TVT to combine level and training type.

Comparing Austria and Switzerland: Structural Similarities and Differences

The appeal of comparing Switzerland and Austria in the area of skills politics is preeminently methodological. Both small open economies rely heavily on a dual system of apprenticeship training, as does their larger German neighbor. Skills systems change only incrementally, and where they wind up is strongly influenced by where they started (Thelen, 2004). No two countries are identical of course, but the similarity in the position and institutional background of these two countries is striking, and their size similarity makes each of them more like the other than the third country with which they share the dual system of apprenticeship training (Germany). It is methodologically useful to have a pair of countries where the beginning point of the overall training system is so similar, while the variation on the independent variable—relative dominance of small vs. large employers—is so stark. Among the largest 500 companies in Europe counted by market capitalization, Switzerland has the single highest proportion of large companies to GDP; Austria has the lowest figure in western Europe (<http://specials.ft.com/ft500/may2001/>).⁸

Peter Katzenstein's (1984) comparative analysis of Austria and Switzerland was one of the first in contemporary political economy to show that organized employers have been an important force in determining the structure of what we now call coordinated market economies. His work also pointed to some of the structural differences between the differences in the role of employers in the politics of the two countries, and the present study continues to draw on these insights. Katzenstein correctly identified the cleavage between large and small employers in Austria (1984, pp. 61-3); however, his analysis of it suggested that these intra-employer differences meant that "private business plays a subordinate role compared to both Austria's vast nationalized sector and its trade union," at least in the areas of trade policy and what he called

domestic compensation policy (1984, p. 52). I will show in this article, though, that small, private employers in Austria were a strongly organized force able to dictate the direction of Austria's tertiary vocational training policy, even against the will of government technocrats, nationalized large firms, and trade unions. This suggests that, in an area of direct political concern to small employers, they have been a more potent political force in Austria than conventional accounts, led by Katzenstein's, allow. In a more general view, this account underscores the great importance of the within-class cleavage between small and large employers (Silvia, 1997; Thelen, 2001, 2004).

Throughout the postwar period, Austria and Switzerland have been small, open economies with a strong export orientation (Harvey, 1963; Katzenstein, 1984). Yet the nature of the industry producing these exports, and the organizational expression of these industries, was dramatically different in the two countries. This is a result of both industrial and political structure. Austrian industry was heavily nationalized immediately following the war, and this fact marked Austrian industrial structure until privatization began in the late 1980s. In the mid-1970s, more than half of the shares of publicly listed (joint stock) companies were owned by the state or state-owned enterprises (Lacina, 1977, p. 8). This ownership was concentrated in the largest firms: of the fifty largest firms in Austria, two-thirds were nationalized and only ten percent were in private, domestic hands (Katzenstein, 1984, p. 50). The defining feature of the Austrian economy in comparative context during the postwar period is the predominance of small and medium-sized firms (Hussain, 1988). The fact that the few existing large firms were almost entirely state-owned through the 1990s has left the representation of employers' interests in Austria dominated by small private firms.

It is important to understand this small firm predominance in order to grasp the nature of employer representation in Austria. The two major representatives of employers are the Economic Chamber (*Wirtschaftskammer*), a public law body to which all companies must belong; and the employers' association (*Industriellenvereinigung*), which is voluntary. As is widely known from the literature on neo-corporatism, the role of the chambers is more important in Austria than in most countries, because of their formal consultative role in a variety of political venues. Less remarked on in comparative perspective is the fact the federal employers' association—which in many European countries is dominated by the voices of large employers—was in Austria much more responsive to relatively small companies for much of the postwar period. Nationalized companies were not members of the employers' association, and the relatively few large, private firms found themselves in the distinct minority in the association.⁹ Thus the organizational capacity of large employers in Austria is, in comparative perspective, low.

By contrast to Austria, both the structure of the Swiss economy and its organizational architecture favor the representation of large firm interests. Internationally oriented large firms, both financial and non-financial, dominate the representation of Swiss business interests. Indeed, a 1974 survey that asked about the degree of influence of interest groups showed that 60 percent of the Swiss public thought “big business” had “too much influence” over Swiss politics, which was by far the largest such opinion held about any group (Sidjanski, 1974, p. 115).¹⁰ Swiss business organization is divided, as in Germany, between a business association concerned with trade and export promotion policies (the *Vorort*) and an employers' association, with regional and sectoral affiliates, concerned primarily with firm-based issues such as wages and vocational training.¹¹ The most important of the sectoral associations in the Swiss context for most of the

postwar period was the association of metal and machine employers (first called the ASM and later Swissmem¹² and comparable to Gesamtmetall in Germany).

The two following sections of this article will demonstrate the gradual divergence of Austrian and Swiss training institutions under the pressure of these two different employer configurations. Using UNESCO data on tertiary vocational training, it appears as late as 1980 that Switzerland and Austria exhibited similar skill profiles: vocational training in both countries was very largely secondary training. Only five percent of those in the Swiss tertiary education age cohort were enrolled in tertiary vocational education, while only two percent of Austrians were. Secondary education in both countries was dominated by the dual system of apprenticeship training, which they shared with Germany. Sixteen years later, the role of vocational education in the tertiary system had grown by 49 percent in Switzerland, while the enrollment in apprenticeship had dropped by eight percent; in Austria over the same period, the role of vocational education in the tertiary system had shrunk by 14 percent, while apprenticeship in the secondary system increased by two percent.¹³ These changes foreshadowed very different levels of success with the introduction of institutes of higher vocational education (*Fachhochschulen*) in the two countries in the mid-1990s.

The Origins of Divergence: 1945-1995

Prior to 1950, the Swiss and Austrian education and training systems were in most respects equivalent: dominated by apprenticeship with a very minor presence for technical secondary schools.¹⁴ During the 1960s and 1970s, both faced pressure to expand higher-level education, as industry tried to respond to technical change. This pressure to upgrade the skill base was widespread among industrial country policymakers at the time, “based on the conviction of

employers and policy-makers that the national output of highly-qualified manpower had to grow if the respective countries were to compete successfully on the world market in times of rapidly changing technologies” (OECD, 1991, p. 13).

Although the Austrian and Swiss economies both faced the challenge of raising skill levels to meet the developing needs of industry, the Austrians started at a considerably lower level of skill intensity in their exports. Throughout this period, the two open economies were looking to different export markets: Swiss firms were looking at global markets, while Austrian firms were looking closer to home, including sending more than 10 percent of exports to eastern Europe and the Soviet Union, where the demand for technologically sophisticated consumer products was presumably lower than in the west (Breuss, 1990, pp. 137-42; Katzenstein, 1984). Small Austrian firms were less likely to export than large firms, but if they did export, their products were more likely to go to eastern Europe than was the case for large firms (OIW, 1971, p. 210; Breuss, 1983, pp. 137-41).¹⁵ From the early 1960s onward, studies by the OECD and others showed that Austrian industry spent much less money on research and development than other comparably advanced economies (notably Switzerland) and used a higher proportion of semi-skilled labor (OECD, 1971, p. 98; OECD, 1967, pp. 139-40; Kramer, 1980). The OECD at the end of the 1960s documented “a particularly acute shortage of engineers in Austrian industry” (OECD, 1971, p. 118).

In response to the perception of skill shortage, Austrian policymakers moved in 1970 to introduce schools similar to the German Fachhochschulen (tertiary technical schools). Franz Partisch, a civil servant in the education ministry, drafted a plan to introduce these institutions with two goals: to reduce the overburdened universities and to upgrade the training of engineers to “international standards” (OECD, 1988, p. 14). The Partisch plan appeared to have support

from the employers' group within the Austrian People's Party (ÖVP); however, the only companies who are on record as supporting the plan are two large nationalized companies: the VÖEST and Böhler & Co (Partisch, 1974, p. 59). In public hearings on the law, the Wirtschaftskammer (WK) and employers' group of the People's Party (the ÖVP) both united to shoot down the proposal on two grounds (Ingenieurverband, 1995): first, because it would impose increased costs on the training system by offering longer training courses; second, the representatives of small employers (joined by the universities) wanted to keep the distinction between tertiary (general) training and vocational training clear (WB, 1970-71: 10; Piskaty, 1971). The secondary engineering degree (HTL) could be undercut by the introduction of a tertiary (more attractive, more expensive) engineering degree (OECD, 1988, p. 16; WB, 1970-71, p. 10). Austrian employers' representatives, while acknowledging the need for more engineers, adamantly opposed the attempt in the Partisch plan to build a tertiary training course that could be accessed via vocational apprenticeship. Such a move would have raised the cost of their apprentices and lowered the prestige of the secondary HTL-engineer degree (which was placed at the same educational level as apprenticeship; the two certifications competed with each other). The defeat of the Partisch plan took the reform of higher vocational training off the political agenda in Austria until the late 1980s (Steiner et al., 2001, p. 7).¹⁶

The Swiss employer discourse on tertiary vocational training differed in two important but related respects from that in Austria. First, the upper technical schools (Techniken or HTLs) that roughly corresponded to the Austrian HTLs were, from the mid-1940s onward, conceived as post-secondary education (i.e., requiring a secondary education certificate), rather than as a secondary school degree. Second, the primary pathway to the Technikum was via an apprenticeship certificate (vocational training), not via general school training (Mangel, 1956).

In the middle of the 1950s, the number of Technikum students was tiny, at fewer than 3000. For the large-firm led metal employers' association, this was perceived as a crisis for the future skill needs of Swiss industry. Even in their earliest framing of the problem, the Swiss metal employers pushed for more Technikum-trained engineers through the promotion of *more* apprenticeships (Förderung, 1956; Die Förderung 1959). That is, the association advocated secondary vocational training as the preferred route to tertiary vocational training for engineers, rather than trying to separate engineering training by encouraging it either at the universities (which apprentices could not in practice attend) or through the secondary system (where it was equivalent to apprenticeship, not a subsequent educational step beyond it). In a front page article of the leading Swiss paper, the *Neue Zürcher Zeitung*, the head of the metal employers advocated the adoption of a 1964 law that would revise apprenticeship training. His appeal for the new law made reference to two principal concerns of employers about higher vocational technical education: greater national government financing for the vocational and technical schools, and allowing HTL-engineering graduates to use "engineer" in their official title, a right formerly restricted to university engineers (Die Industrie, 1964).¹⁷ Both these claims, which were subsequently adopted, helped large employers expand the scope and appeal to students of the nascent tertiary vocational training system.

As in Austria, Swiss employers' associations were concerned throughout the 1960s with a perceived lack of engineers and other technical employees for the future (Fatzner, 1961, pp. 35-7; Aebli, 1969, p. 11). Firms in the Austrian economy had experienced this same perceived shortage of technical workers, which led to the Partisch plan; the mobilization of small employers against the plan had defeated it. In the Swiss constitutional structure, whose decentralized organization gave primary authority for education to the cantons, no such central

law was required. The principal employers' organizations worked with cantonal governments to promote the development of Technikum and HTL education, over which the federal government had little oversight. By 1974, the metal employers' association boasted that its member-firms employed three times as many graduates of HTL-education as of the university system (ASM, 1974, p. 27). Yet the enrollment in HTL-education, which had more than doubled between 1955 and 1965, had remained stagnant since then, and the forecast of organized employers suggested that by 1976 there would be a shortfall of 2500 HTL-trained students in metal firms alone (ASM, 1974, p. 32; Statistisches Jahrbuch der Schweiz, 1965).

To give an impetus to the development of tertiary vocational education, in which Switzerland was correctly perceived as lagging its principal competitors, a regulatory reform of the structure of the higher technical schools was included in the reform of the basic vocational training law in 1978 (Schweizerisches Wissenschaftsrat, 1978, p. 117). This reform was significant both for its form and its consequences. Whereas the eventually failed reform of the Austrian tertiary vocational system had been divorced from any legal changes to the existing vocational education system, the regulation of higher technical schools in Switzerland was included in the basic vocational reform law, most of whose regulations dealt with the conditions of apprenticeship. Whereas the Austrian proposal came to be viewed as by small employers as a potential drain on apprenticeship, the Swiss lawmakers emphasized the greater tertiary measures as a basic element to reinforce the competitiveness of the Swiss economy, which given developments in the international economy, required "a broad supply of deep training and the largest possible degree of permeability in the [vocational] educational sector" (Attraktivere, 1977). From their very conception, these schools were intended to save apprenticeship, not to

replace it. The consequence of their regulation was to create steadily increasing enrollment in Swiss tertiary training throughout the 1980s.

As in almost all advanced industrial countries, tertiary sector enrollment increased in both countries during the 1980s, but in Switzerland the tertiary vocational enrollment (by now starting from a much higher base) more than doubled, whereas the corresponding growth was less than 50 percent in Austria. The Austrian employers' association only attempted to reopen discussion of the Partisch plan for technical tertiary training in 1987, but their primary ground for doing so was to facilitate Austrian accession to the European Communities.¹⁸ Their effort came at the same time as the OECD comparative study that identified (small-firm dominated) Italy and Austria as the outliers in the non-university tertiary field (NUS), having failed to expand this sector faster than the university sector (OECD, 1991). "The authors of the Austrian case study pointed out that the [existing Austrian] NUS could neither satisfy the needs of recurrent education better than the universities, nor could it satisfy regional demands for education [from the] business sector" (Arnold, Pechar & Ungar, 1998, p. 62). As in Switzerland, thus, large employers expressed dissatisfaction with the available skills profile. Unlike in Switzerland, though, the large employers did not drive the Austrian higher education discussion.

Formal Institutional Change: The Transition to Fachhochschulen

Developments in Swiss and Austrian tertiary training appeared to reconverge in the 1990s, when both introduced higher specialized schools (Fachhochschulen). As new formal institutions, the introduction of higher specialized schools in Austria and Switzerland look very similar, even though in implementation the Swiss law could upgrade many of its existing higher vocational schools. In both countries the desire to align on European standards and the demands of business

were adduced as primary causes for the adoption of the law; in Austria, the overburdening of the universities (as a result of developing no significant NUS) was also cited as a primary ground for passing these policies (Arnold, Pechar & Ungar, 1998, p. 61; EDK, 2001, p. 4). However, the extent of real impact of the introduction of new training institutions would depend on the developments of the past decades, for two reasons. First, the attractiveness of the new educational track is a function of how much students believe it represents an asset on the labor market, which in turn depends on how they think employers will value the credential of a Fachhochschule (FH) degree. Second, it depends on its ease of integration with the lower educational tracks that feed into it. In both cases, the previous years' developments systematically favored much faster growth in the Swiss than in the Austrian schools.

The Swiss FH were not officially founded until 1997; those in Austria were begun in 1994. However, in part because they built on the existing tertiary vocational education schools, enrollment at Swiss FH has significantly outpaced that at Austrian schools, despite being founded three years later: in 2004 29 percent of the enrollment of Swiss tertiary education was in the Fachhochschulen; the corresponding figure in Austria was only 9 percent of tertiary enrollment. Lassnigg et al. cite evidence that Swiss FH graduates have gained greater acceptance on the labor market than their Austrian counterparts (2003, p. 61). Moreover, graduates of Swiss FHs have a lower unemployment rate than graduates of Swiss universities (2.8% vs. 4.1%) and, one year after graduation, their average salary exceeds that of their university compatriots (BFS 2002: 38). Clearly, the Swiss schools have convinced a significant number of students to enroll at least in part because they have a track record as producers of labor market credentials and are not a brand new experiment.

Secondly, though, Swiss FHs have a radically different educational composition of students than do Austrian FHs. Both countries have dual systems of apprenticeship training, through which a large proportion of youth pass. As OECD reports underline, this system results in comparatively low youth unemployment in both countries, but at the cost of assigning students to vocational tracks at a young age and having low levels of permeability between tracks of the education system. In 1996, Austria ranked last and Switzerland third from last in a comparison of the proportion of the proportion of 25-34 year olds with university-level education. Both countries also stood below the OECD average (ahead of only Hungary and the Czech Republic) in the expected years of education a child would receive (OECD, 1999, pp. 10-12). It is not surprising, therefore, that governments in both countries attempted to introduce greater permeability to their systems of vocational training in conjunction with the introduction of FH education, although the timing in the two countries is interesting. The Swiss introduced the *Berufsmaturität* (BM) in 1994—three years before the introduction of the FHs, thus creating the vehicle by which apprentices could transition to the FHs before the FHs were officially introduced. The Austrians introduced the *Berufsreifeprüfung* (BRP) in 1997, only after the introduction of the FHs, which delayed the entry of apprentices into the FHs. Both degrees offered access to higher education institutions, and it was foreseen by politicians in both countries that the two degrees would allow a passageway between apprenticeship and higher education through the *Fachhochschulen* (Gleichwertig, 1994).¹⁹

By 2003, however, only the Swiss BM was numerically significant, with more than 9000 awarded that year (constituting more than 15 percent of all upper secondary diplomas in Switzerland). In Austria, there are no official statistics available from the ministry—only “estimates” that between 8,000 and 11,000 youth have received this degree in total (NOT per

year) since its inception in 1997.²⁰ 52 percent of the first year FH students in Switzerland in 2001 had a Berufsmaturität; in 2003, only 6 percent of entering FH students had passed a Berufsreifeprüfung in Austria. A 2004 report by the Austria government representative for youth employment and apprenticeship asserted that, “to my surprise, [the measure] was known in the population too little or not at all” (Blum, 2004, p. 14). Given that the statistics branch of the education ministry has not bothered to count accurately the number BRP recipients per year, the representative’s shock is perhaps overstated. Nine years since its introduction, there is no evidence the BRP has made any headway at all.

The outcome of the Austrian reform is very little change on the part of the partners to the education and training nexus in the country. The FHs have been slow to attract students, and this is partly because one target population—those doing dual apprenticeship—by and large are unaware that the barrier to entry to higher education has been lowered. Even if this knowledge were widespread, it is not likely that employers would push for greater take-up of this option. Throughout the 1970s and 1980s, it was small employers who dominated the discourse of training reform in Austria, and those small employers have little desire to move away from a system based on apprenticeship or to pay workers more because of their higher educational qualifications. Studies of training intensity between Germany and Austria show that German companies invest more in the inputs of training (personnel and infrastructure) than do their Austrian counterparts (Lassnigg, 2004, p. 4). This suggests that firms are investing less in apprenticeship in Austria, as does the fact that training is concentrated in small companies (who on average provide lower quality training), “with half of apprentices trained alone and an additional third trained with only one or two colleagues in their training firm” (ibid). Austrian

training is responding very much to the expressed needs of its small and medium-sized employers, and they have little incentive to change it.

In Switzerland, by contrast, large employers have led the push for improvement of the dual system through its connection to tertiary vocational training, and later to Fachhochschulen. Swiss employers are no more egalitarian than Austrian employers, to be sure, but Swiss companies need workers with increasingly broad skill sets, as they have recognized for decades. The range of tertiary vocational schools expanded throughout the 1980s, increasing the choice of educational options that were close to the workplace while involving more extended theoretical training. The establishment of the BM as the dominant credential to accede to FHs accentuated this movement: Switzerland is not moving away from dual system training, but it is using dual system training to increase the breadth and general level of vocational skills. While Austrian small employers have “protected” the dual system from encroachment by tertiary training, Swiss employers have used tertiary training to upgrade the skills provided through dual training and to increase the permeability of the system. In 2004, Swiss employers were active advocates of a constitutional amendment setting vocational and general education on equal terms (BBW, 2004). Austrian employers, by contrast, have done little if anything to promote greater permeability of the vocational educational system, seeing this as a weakening of the apprenticeship system on which many of them still rely heavily for production.

Conclusion

This paper has argued that Switzerland has over the course of the postwar era moved from a system based largely on the provision of skills through the dual apprenticeship system to one that increasingly sends young apprentices to broaden their skill base in tertiary educational

institutions. Austria has not moved in any significant respect in this area. The root of this divergence lies in the strategies of employers in the two political economies. The SME-dominated employers' organizations in Austria have successfully sought to maintain dual system secondary training, with little connection to tertiary training, as the primary skill provision model of the country. The domination of large employers in Switzerland has led, instead, to a focus on increasing skill levels and portability by progressively linking the tertiary vocational training system to the dual apprenticeship system.

What are the implications of this work for current theoretical discussions of the sources of institutional change in contemporary capitalism? It tends to confirm recently scholarly work on the importance of employers' preferences in determining the ultimate outcomes of skills systems (cf. Thelen, 2004). Although the causal pathways are long and the temporal progression is gradual, the loudest voice in debates on these issues in both countries was employers, and employers were divided among themselves over the preferred outcomes. The outcome is not the path dependent result of a one-time policy choice made during the 1970s, when actors might have been unsure of the outcomes of the policies 30 years later. Instead, this was an anticipated consequence: Swiss large employers wanted greater permeability and Austrian small employers did not, and they mobilized in pursuit of that goal. Sometimes that mobilization took place through parliament, but sometimes it took place in labor market practices (the hiring of graduates of tertiary vocational education) or the spreading of information about possible tools for mobility to tertiary education.

The Swiss case epitomizes the sort of "incremental change with transformative results" that is the subject of recent theorizing by Streeck & Thelen (2005). As they argue, actors within a system experiment with the formal rules laid down by policy-makers, and the evolution of the

logic of a system is much more one of formal changes to institutions followed by changes in behavior in the population followed by further legislative adjustments. Where this article potentially diverges from theirs is in their precept that formal, legal institutions are those that sustain the institutional specificity of modern political economies (Streeck & Thelen, 2005, pp. 9-11). What is interesting and important about Swiss and Austrian education is not that they established, at similar times and under similar external pressures, Fachhochschulen. What is important is how the systematic pattern of individual and company skill investments changed in Switzerland but not in Austria. This accounted for the take-off of the Swiss tertiary vocational institutions and their slow development in Austria. Laws and legal change were important in structuring the experimentation that took place in the population. Also important, though, were the informal patterns of skill investment that changed slowly but surely among young Swiss during the 1980s and continued in the 1990s.

In broader perspective, this study of the politics of change in coordinated market economies leads us back to Peter Katzenstein's study of small states in world markets (1984, 1985). Katzenstein's work assessed both the similarities and the differences within these economies, but the large bulk of discussions of this work take off from the similarities in these economies. This article has emphasized the importance of skill politics for employers' organizations, and it has argued that political economies organized around large firm interests work very differently than those dominated by small firm interests. Research into industrial relations institutions has also underlined the importance of the cleavage between small and large firms to the area of industrial relations (Thelen, 2001). If such a conflict divides small and large employers in both these institutions, which are central to the analytical framework of the varieties of capitalism, future research may well want to consider the extent to which the

variation within coordinated market economies is driven by the relative dominance of small and large firms.

Thus, the political economy most like Austria in this perspective is not Switzerland, but Italy: both are dominated by small firm interest representation, and both are extreme outliers in their low degree of tertiary vocational training (Crouch, Finegold, & Sako, 1999, pp. 171-6). Switzerland is more similar, in the extreme large firm orientation of its political economy, to the Netherlands and to Sweden. This orientation has been the causal motor behind the very rapid expansion of tertiary vocational training in Switzerland since 1980. In order to remain a progressive research program, the work on the varieties of capitalism needs to continue to reveal “novel facts” about the political struggles within contemporary capitalism, and particularly within the group classified as coordinated market economies. The small firm/large firm cleavage is one whose political import merits further empirical study.

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Tables**Table 1 Net Average Annual Training Costs Per German Apprentice, by Firm Size**

Employees	1-9	10-49	50-499	500+
Cost (Euro)	542	1,423	3,402	8,176

Source: Beicht & Walden, 2004, p. 102.

Table 2 Skill Profiles in OECD Countries using Vocational Training Share (VTS)

Most Specific	→	→	Most General
VTS 26.3%	VTS 30.7%	VTS 37.0%	VTS 6.8%
France	Austria	Belgium	Australia
Japan	Germany	Denmark	Canada
Italy	Sweden	Switzerland	Ireland
		Finland	New Zealand
		Norway	UK
		Netherlands	US

Source: Estevez-Abe, Iversen, & Soskice (2001).

Note: VTS refers to the vocational training share, as operationalized by Estevez-Abe, Iversen, & Soskice (2001). This table replicates their own categorical assignment of countries, on a single dimension, running from most specific (least general) skills to least specific (most general). If VTS is a valid measure of the skill specificity characteristic of a national system of skill provision, the VTS number should get smaller as we move from clusters of *most* specific to *least* specific skills (left to right). Clearly, VTS does not decline, but instead increases, except in the case of the Anglo-Saxon countries.

Table 3 Skill Profiles in OECD Countries using Tertiary Vocational Training (TVT)

Most Specific	→	Most General
TVT 3.9%	TVT 14.4%	TVT 29.9%
Italy	France	Sweden
Austria	United Kingdom	Netherlands
Denmark	Japan	Belgium
Germany	Finland	Australia
	Switzerland	United States
	Ireland	Canada
	New Zealand	
	Norway	

Source: UNESCO (various years). Torben Iversen generously shared his data gathered from UNESCO for this project. These data have been double-checked and corrected with additional data from the OECD, the Dutch Ministry of Education, the German Statistisches Bundesamt, and Statistik Austria.

Note: TVT refers to the proportion of an age cohort enrolled in post-secondary (3-year and 2-year college level) vocational education. This table groups countries according to their 1995 level of tertiary vocational training.

Notes

¹ The cleavage between small and large firms also extends to industrial relations in coordinated market economies (Thelen, 2001; Silvia, 1997).

² Firm size is not the only determinant of skill preferences. The sectoral composition of the economy is also extremely important—indeed, a small maker of specialized engineering components surely demands higher skill levels than a large producer of mass-market t-shirts. Yet the focus of this paper is on coordinated market economies, many of which concentrate their production in similar sectors; moreover, the difference between small and large firm preferences holds within most sectors, if not across sectors. Finally—and decisively—the political organization of business interests critically influences the relative importance of size vs. sector in representation, and virtually all studies of the organizing strategies of employers emphasize not the sectoral cleavage, but rather the cleavage between small and large firms (Silvia, 1997; Martin, 2000; Thelen, 2001).

³ Bruno Amable, who has done some of the most exhaustive empirical work trying to identify the empirical correlates of capitalist clusters, admits that “lack of reliable and comprehensive data on vocational training has led to its non-inclusion in the data analysis” that he conducts (Amable, 2003, p. 164).

⁴ In later work Iversen & Soskice (2005) and Iversen, Rosenbluth, & Soskice (2005) call this measure vocational training intensity.

⁵ To assess vocational training share, Estevez-Abe, Iversen, & Soskice (2001) combine two different sort of measure, which has the effect of slighting the role of post-secondary vocational training in their analysis. For the secondary school component (which includes apprenticeship), they use the *share* of students enrolled in vocational training programs as a proportion of total enrollment in secondary education (vocational and non-vocational). For the tertiary component, however, they use as the numerator only tertiary vocational (ISCED5) *graduates*, rather than students *enrolled* in vocational training at the tertiary level. The measure I use, by contrast, uses enrollment in tertiary vocational education, which seems the most likely comparator to enrollment in secondary vocational education.

⁶ Australia’s TVT jumped by more than 4 times between 1980 and 1995, but this was due to a statistical reclassification of existing programs.

⁷ In recent work Iversen & Rosenbluth combine VTS with an index of median workplace tenure (longer tenure equals more specificity) (2006). This measure also makes intuitive sense, but workplace tenure is at least as

influenced by the extent of legal measures of employment protection as by skill system. Its use to explain any characteristics of welfare state arrangements faces significant endogeneity problems.

⁸ GDP figures are from the World Bank, and all data are for the year 2000. With 31 companies in the top 500, Switzerland had a company/GDP ratio of 0.12; with only four companies, the same ratio in Austria was 0.02.

⁹ The Austrian employers' association declined to provide any official membership numbers, but from annual reports we can determine that in 1979, their member companies employed 104 employees on average. Members of the Swiss Metal Employers' Association, by contrast, employed 460 workers on average in 1973 (ASM, 1974, p. 27) (in Austria, there are no sectoral associations—only sectoral members of the *Wirtschaftskammer*). Katzenstein (1984, p. 63) argues that the two Austrian employers' organizations harbored differing views toward the economy, with the employers' association representing the more internationally oriented firms and the chamber representing the domestic and protected sectors. While this is true, it fails to underline that the structure of Austrian business during this period was one in which large, internationally oriented firms were marginal players. While in most economies large employers “punch above their weight” because of their importance to the economy, they are so marginal in postwar Austria that punching above their weight still gave them little voice in employer politics.

¹⁰ The perception of too much influence for big business was higher than the perception of too much influence for banks (46 percent), and no other group was perceived as having too much influence by more than 15 percent of those surveyed. Thus the well-known dominance of financial groups in Switzerland is paired with the less well-known but even more striking dominance of large non-financial firms.

¹¹ The peak trade association of Swiss employers—the former *Vorort*—merged with one other association and was renamed *economiesuisse* in 2000. There is also a third peak association of small employers—the *Gewerbeverband*—with much less influence over Swiss politics.

¹² *Swissmem* stands for the *Schweizer Maschinen-, Elektro- und Metallindustrie*.

¹³ After 1996, UNESCO introduced a new ISCED classification, making it very difficult (currently: impossible) to compare ISCED categories before and after this time in a cross-nationally reliable way.

¹⁴ The only major difference was constitutional: the Austrian system was a highly centralized model, whereas the Swiss system was highly decentralized in terms of control of technical education.

¹⁵ In comparison, the members of the most active branch organization of Swiss employers, in the metal sector, exported 75% of their total production; these metal companies alone accounted for half of Swiss exports in the early 1970s (ASM, 1974).

¹⁶ An OECD review in 1975 raised the issue of whether Austria should expand its tertiary vocational sector, but the government of the time dismissed the question (Pfeffer et al., 2000, pp. 2-3).

¹⁷ The legal compromise allowed Swiss technical school graduates to list the title “HTL-Ingenieur” after their name. It should be noted that Swiss HTLs differ dramatically from Austrian HTLs (both stand for Höhere Technische Lehranstalten). Swiss HTLs are 3-4 years of study after the completion of a 3-4 year apprenticeship; the Austrian HTL a 5-year degree that begins in ninth grade (the same time as apprenticeship).

¹⁸ Interview with Gerhard Riemer, Director for Education, Innovation and Research, Federation of Austrian Industry; December 7, 2005.

¹⁹ The Austrian BRP also allows for access directly to universities.

²⁰ This estimate was received in response to an email communication with Gerhard Orth of the education ministry in Austria.