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# Partisan Politics, the Welfare State, and Three Worlds of Human Capital Formation

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The authors propose a synthesis of power resources theory and welfare production regime theory to explain differences in human capital formation across advanced democracies. Emphasizing the mutually reinforcing relationships between social insurance, skill formation, and spending on public education, they distinguish three distinct worlds of human capital formation: one characterized by redistribution and heavy investment in public education and industry-specific and occupation-specific vocational skills; one characterized by high social insurance and vocational training in firm-specific and industry-specific skills but less spending on public education; and one characterized by heavy private investment in general skills but modest spending on public education and redistribution. They trace the three worlds to historical differences in the organization of capitalism, electoral institutions, and partisan politics, emphasizing the distinct character of political coalition formation underpinning each of the three models. They also discuss the implications for inequality and labor market stratification across time and space.

**Keywords:** *education; skills; welfare states; redistribution; partisanship*

By the time of the publication of Gøsta Esping-Andersen's (1990) *The Three Worlds of Welfare Capitalism*, power resource theory (PRT) had become the dominant approach to the study of welfare state development. From this perspective, the size and structure of the welfare state is a function of the historical strength of the political left, mediated by alliances with the middle classes (Esping-Andersen, 1990; Huber & Stephens, 2001; Korpi,

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1983, 1989, 2006; Stephens, 1979). Recently, the theory has come under attack for neglecting the role of employers in the rise and design of the modern welfare state (Mares, 2003; Swenson, 1991, 2002). It has also been challenged from a varieties of capitalism (VoC) perspective (Hall & Soskice, 2001) by scholars who propose that different systems of social protection are efficient complements to distinct modes of capitalist production, or welfare production regimes (WPR; see Estevez-Abe, Iversen, & Soskice, 2001; Iversen, 2005). In this article, we show that the PRT and WPR approaches are consistent with one another and can productively be combined to make sense of many puzzling differences in the structure and functioning of Esping-Andersen's different worlds of welfare capitalism. Such a synthesis also helps explain more recent changes. Our focus is on differences in coalition politics and how such politics affect human capital investment—a key to understanding not only distribution and redistribution but also economic performance and comparative advantage.

There is certainly scholarship that has contributed to our understanding of the role of skills. Rehn and Meidner (1951) argued that egalitarian wage policies coupled with investment in retraining would allow companies to adapt to the international economy while raising productivity. Garrett (1998) and Boix (1998) applied these arguments more broadly to all public investment in education. More recently, Estevez-Abe et al. (2001), Iversen (2005), and Iversen and Soskice (2007) have examined the complementarities between the vocational educational system, unemployment and employment protection, and production regime type (coordinated market economies [CME] vs. liberal market economies [LME]). The idea is that what matters is not simply the level of educational investment, which is high across the Organisation for Economic Cooperation and Development (OECD) and underpins high standards of living, but differences in the composition of those investments.

Here, we cast a broader net, examining the whole educational system (measured by overall educational spending, day care spending, and higher education spending), labor market training (active labor market policy), and the whole welfare state pattern, including its redistributive aspects. In so doing, we show that the aspects of the welfare state and system of wage bargaining that has long been the focus of PRT, redistribution, and wage compression are strongly, inextricably, and causally related to aspects of the skill formation system that has been a focus of the WPR approach. We extend WPR analysis of the complementarities between social protection and development of specific skills and show that social equality fosters high levels of human capital (both general and specific skills) especially at the

bottom end of the skill distribution, which in turn reinforces social equality. The linkage between human capital and the welfare state is essential in understanding the how countries with high levels of equality and redistribution have also been able to succeed economically. It also suggests why employers who rely on skilled workers sometimes, but certainly not always, support policies and institutions that are usually associated with the left.

Education has always had an uneasy position in this subfield. On one hand, it is a free public service similar to other social services provided by the state. On the other hand, public education substantially predated the 1883 German sick pay legislation, which is generally considered to be the first piece of modern social legislation. Thus, most comparative welfare state scholars have followed Wilensky (1975), who observed that “education is different” (p. 3) and thus excluded it from his analysis. But skills and education are at the core of the welfare state. Incentives to acquire particular types of skills are closely related to both social protection and economic performance, and educational spending is not only a partisan issue but also one with profound implications for the distribution of income. Education and training systems can fruitfully be reintegrated into comparative welfare state analysis.

We propose to do precisely that here. We build on the insights of the WPR analyses of skill formation and social insurance and ask how education and formation of general skills complement other social policies in creating distinct WPR. Initially, we turn an oft-cited flaw of VoC—that it is functionalist—into an advantage. We ask how educational policies and other social policies reinforce each other and various aspects of the particular VoC of a country to form distinct competitive niches in the world economy at the turn of the century. We subsequently turn to some very tentative answers to the question of the historical origins of the regimes.

## **Explaining Cross-National Differences**

### **PRT and WPR: A Synthesis**

We begin by summarizing a set of findings and associated theoretical arguments from both the PRT and VoC literatures that we believe are sufficiently well established they can be treated as stylized facts.<sup>1</sup> We then suggest how these insights may be combined to explain differences in skill formation and educational policies across countries. We are interested in causal relationship, and our ambition goes beyond Esping-Andersen’s (1990) descriptive regime types, but the argument we present in fact implies three

worlds of human capital formation, each reflective of a particular underlying class coalition and political-economic institutional structure.

Our point of departure is the observation that, in line with PRT, there is strong statistical as well as historical evidence suggesting that (a) left control of government increases redistribution (Allan & Scruggs, 2004; Bradley, Huber, Moller, Nielsen, & Stephens, 2003; Hicks & Swank, 1984; Huber & Stephens, 2001; Korpi, 1983) and (b) unions and coordinated wage bargaining reduce wage inequality (Freeman, 1980; Rueda & Pontusson, 2000; Wallerstein, 1999). There are a number of likely reasons for the latter effect. First, skilled workers have an incentive to protect their skill investments by demanding standardized rates across firms by skill. Should they lose their job in one firm, they can then expect to be rehired into another firm at a similar wage (assuming that the average wage is set to guarantee full employment). Second, if semiskilled workers are complements to skilled workers in production, the consent of the former is required before an agreement with employers can be reached. This gives unions that organize semiskilled workers bargaining power within the centralized bargaining system (assuming that they are in fact organized in unions).

To explain the ability of center-left governments to dominate politically in some countries but not in others, we have to understand the underlying coalition dynamics. In party systems with weak Christian Democratic (CD) parties, proportional representation (PR) electoral institutions tend to produce center-left governments, whereas majoritarian institutions tend to produce center-right governments. This relationship can be explained in part by the incentives of center parties to ally with left parties to tax the upper-middle and upper classes (Iversen & Soskice, 2006). If there is a cost of being excluded from the governing coalition, which equals the benefit for those inside the coalition, that cost is likely to be proportional to the income and assets of those who are excluded. As PRT emphasizes, minimal winning coalitions that exclude the right from government is a key condition for redistribution. The notion of PR as consensus democracy (Crepaz, 1998; Lijphart, 1984) can still apply in other policy dimensions, but the need for consensus is not what explains redistribution. The best example here is Switzerland, which has a collective executive that includes all the major parties, strong bicameralism, federalism, and referenda, which are very important in the legislative process. This gives those with high incomes veto power in the political system. As a result, the Swiss welfare state is the least redistributive of all welfare states, including the liberal ones (Bradley et al., 2003).

The incentive of the middle class to ally with others in majoritarian systems is very different. Faced with two major parties that both appeal to the center but cannot fully commit to a median voter platform, middle-class voters will be concerned that the center-left party may succumb to radicals within the party and reduce benefits to the middle class while taxing it at the same time. They may also be concerned that center-right governments could abandon their electoral platform and cut middle-class benefits, but there will be an expectation of offsetting cuts in taxes to avoid an openly regressive outcome. Whether for ethical or political stability reasons, the scope for redistribution from the poor and middle classes to the rich seems to be strictly limited in advanced democracies. This produces a disadvantage for the left in majoritarian systems, which is precisely the opposite of the bias in PR systems (Iversen & Soskice, 2006).

We believe that the distinction between PR and majoritarian systems captures well the difference in coalition logics between the Nordic countries, long dominated by center-left governments and liberal countries such as Britain, Australia, and New Zealand (until 1996). New Zealand's switch to PR in 1996 gives one a natural experiment that strongly supports the argument: The 17 single member district plurality elections from World War II to 1993 resulted in 12 National single-party governments and only 5 Labour single-party governments. The four elections since 1996 have produced 3 Labour-led coalition governments and 1 National-led coalition government.

Among PR countries, however, those with strong CD parties are different. Because these parties are cross-class coalition parties (Kalyvas, 1996; Van Kersbergen, 1995), their preferred policies more closely reflect a compromise between different income groups. The implication is that these parties tend to adopt relatively centrist positions on economic issues and are often in a position to form governing coalitions with center or middle-class parties. This eliminates or reduces the advantage that the left otherwise has in the government coalition formation process of PR countries. The exceptions are where the CD parties have not been able to form majority coalitions with pure center parties, or where they are more properly seen as center parties themselves. The CD parties in the Benelux countries are centrist parties with liberals on the right and Social Democrats on left, so the party system structure is different than the one in Germany and Italy, where the Christian Democrats are center-right. This explains the higher incidence of center-left governments in the former countries and the correspondingly higher levels of redistribution. (Austria with the grand coalition to 1969 and then a period of SD dominance and very strong unions is a special case.)

The logic of Christian Democracy again illustrates that the partisan composition of governing coalitions is critical for redistribution. Although the poor may never be entirely excluded from benefiting from the CD welfare state, the tendency for low-skilled workers to be disproportionately represented by communist or social democratic parties means that their interests are not well attended to in CD-center coalitions (as has been the case in much of the postwar period in Germany and Italy). This is something, we believe, that has exacerbated already existing tendencies in CD welfare states' insider-outsider divisions, rooted in low unionization rates among low-skilled and semiskilled workers, especially in the private services. Unlike Rueda (2005), however, we see this as a distinctly CD rather than a social democratic pattern.

A final stylized fact is that there is no trade-off between relatively egalitarian and redistributive welfare states and investment (Swank, 1992), economic growth (Lindert, 2004), or international competitiveness (Garrett, 1998). So whatever the costs of social protection, these must be offset by countervailing effects. By emphasizing the insurance aspects of social protection and the way in which such insurance interacts with the skill formation process, WPR theory helps account for the lack of revealed trade-offs. High social protection encourages investment in specific skills and thereby supports a training system that enables firms to specialize in international niche markets—typically permitting quasimonopolistic competition with high mark-ups. High demand for specific skills is also associated with an institutionalized school-to-work transition, where workers at the lower end of the ability distribution have strong incentives to work hard in high school to get into the best vocational schools or get the best apprenticeships (Estevez-Abe et al., 2001). This in turn raises skills at the low end, which supports the pursuit of a more compressed wage structure by unions through the collective wage bargaining system. In general skills systems such as the United States, by contrast, there is a well-known bifurcation of the high school population between those students who expect to go on to college and therefore have strong incentives to work hard to get into the best schools and those who are academically disinclined and expect to leave the formal educational system during or right after high school. For the latter, there are few opportunities for acquiring additional skills, and they end up in poorly paying jobs with little prospect for advancement.

Because the entire training system in specific skills systems and the industrial relations system that goes with it (collective bargaining in particular) require cooperation between employers and unions, and because the need for such cooperation extends to a broad range of regulatory policies

that affect the operation of the training system and the labor market more broadly (including certification of training programs, active labor market programs, employment protection, and the design of social policies), the political system must facilitate cross-class bargaining (Crouch, 1993; Cusack, Iversen, & Soskice, 2007; Martin & Swank, 2004). This is enabled by PR, because all major interests are represented through well-organized political parties, and because regulatory policies (as opposed to tax and spend) have to pass through committee systems that are typically based on PR and consensus bargaining (Colomer, 2006; Powell, 2000, ch. 2; Strom, 1984, 1990). These committees draw on technical expertise from the bureaucracy, where employer associations and unions are directly represented, and with the important exception of budgetary decisions, all new legislation passes through these committees for amendment before they are presented to the floor. They thus serve as more or less effective veto gates for the technical aspects of new legislation. This, then, is where the consensus image of PR systems, advocated by Crepaz (1998), Katzenstein (1985), Lijphart (1984), and others, fits in, and from a WPR perspective, it helps explain why employers and the right have supported PR, even though it clearly has given an edge to the left and redistributive coalitions (Cusack et al., 2007).

The efficiency aspects of both economic and political institutions are important in understanding the long-term sustainability of these institutions. If it were truly the case that the most salient aspect of welfare states was their capacity to “decommodify”—which for Esping-Andersen (1990) means that “citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary” (p. 23)—not only would employers be opposed (as Esping-Andersen says) but also the entire foundation of capitalism would be at risk. Although left governments redistribute, social legislation is generally molded, through parliamentary committees and bureaucratic agencies with corporatist representation, in such a manner as to be compatible with efficient labor markets and competitiveness.

This is one element of Swenson’s (1991) critique of the original PRT view of the welfare state development (Esping-Andersen, 1985; Korpi, 1983; Stephens, 1979) that we agree with: The historic development of the welfare state was not a class struggle between the working class movement and employers; rather, it was (leaving the complications of Christian democracy aside for the moment) a struggle between social democratic parties, unions and their lower income constituents, and conservative parties, whose constituents’ (upper income groups) main interest was in low levels of taxation. Taking Sweden as a paradigmatic case, the conservatives’ central issue in the

critical election of 1948 (and this period in general) was not social policy but taxation. Opinion polls in this period showed that their position was very consistent with that of their electorate, for whom tax cuts was the most salient issue (Stephens, 1976, pp. 224-229). This view of the social democratic welfare state project is fully in line with the coalitional story in which lower income groups are the clear beneficiaries and upper income groups the clear losers in the distributive struggle. By contrast, social democratic government is not associated with high labor shares of national income and only weakly associated with the taxation of capital (Swank, 2002, p. 254).

Before moving to our analysis of human capital formation, it is worth underlining that although we contend that PRT and WPR are complementary theories of welfare state development, we do not assert that they make the same prediction. Specifically, PRT's primary concern is distributive outcomes, whereas the WPR focus is on insurance. In separate works (Huber & Stephens, 2001; Iversen, 2005), we have argued that a strict separation of insurance policies and redistributive policies is empirically not possible, because even the most insurance-like policies, such as contributory earnings related pension, do in fact redistribute income (Stephens, 1995). It is nonetheless true that the degree to which insurance such as transfers and other transfers redistribute income varies greatly across CMEs. At one end stands Switzerland, where taxes and transfers reduced inequality among the working age (25 to 59 years) population by only 9% in the 1990s.<sup>2</sup> At the other end stands Sweden, where the corresponding figure was 42%. The average for social democratic CMEs (the Nordic countries) was 37% compared to 24% for Christian Democratic CMEs (Austria, Belgium, Germany, the Netherlands, and Switzerland), which is consistent with the predictions of PRT. To measure variations in public insurance for working-age adults, we can examine the average replacement rate for the two programs in Scraggs's (2004) *Comparative Welfare Entitlements Data Set*—sick pay and unemployment insurance—which accrue primarily to working-age adults. Here, we find that, consistent with the predictions of WPR, CD and social democratic CMEs have identical replacement rates of 74%, which is much higher than the replacement rates of liberal countries (34%).

### Three Worlds of Human Capital Formation

The synthesis between the PRT and WPR approaches we have presented in the previous section can be readily applied to explain the political economy of skill formation and educational investment across countries. In particular, we can discern three worlds of human capital formation, each an outcome of the interaction between partisan politics and production regimes.

*LME with majoritarian electoral institutions.* In these countries, the center or center-right government spends relatively few resources on high-quality public primary and preschool education. The bulk of public spending goes to programs that benefit the middle class (especially college education and the preparation for such education), whereas the upper-middle class invests heavily in private education. Because social insurance and redistribution is low, the middle and upper-middle classes essentially self-insure through investment in general education that makes it easy to move around in the economy in response to shocks. Companies specialize in production that uses low and general skills intensely; and because it is difficult for unions to gain bargaining leverage when workers are relatively easy to replace, the incentive to join unions is low. The result is highly fluid labor markets where lower productivity firms can take advantage of low wages and the flexibility to lay off workers in downturns.

Because the vocational training system is weak and the transition from school to work is weakly institutionalized, those at the bottom one third of the ability distribution have few opportunities to acquire valuable skills, and they also have few incentives to work hard in school (Estevez-Abe et al., 2001). At the other end of the ability distribution, among those students who expect to go on to college, there are strong incentives to do well in school, and the result is a highly bifurcated skill structure, reflected in a highly unequal wage structure. Although these inequities could be redressed by a significant rise in spending on the education of weaker groups, there is no incentive for the middle class to vote for such policies and therefore no electoral incentives for the center-left to pursue them. The middle class instead wants educational policies that keep wages high and ensure horizontal mobility to counter labor market volatility. Because of flexible labor markets, low-skilled workers also enjoy high horizontal mobility, but this does not translate into vertical mobility as conventionally measured in stratification research (Erikson & Goldthorpe, 1992).

*CME with PR electoral institutions and the absence of a strong CD party.* In these countries, center-left coalition governments produce high redistribution, strong support for investment in primary and secondary education, active labor market programs, and high-quality public day care and preschool services. What has become known as the “flexicurity” model reflects a distinct center-left coalition between low-skilled and high-skilled workers (excluding professionals) that encourages the acquisition of deep (industry-specific) skills but at the same allows labor market flexibility through interfirm mobility and extensive spending on retraining and public

employment. Although unemployment replacement rates are high and income protection is generous in general, employment protection tends to be modest in these countries. This is most obviously the case in Denmark, Finland, and Norway, though less so in Sweden, if we use OECD's employment protection legislation (EPL) as a gauge. However, the EPL measure may overestimate inflexibility in Sweden, because according to law, unions can negotiate away any feature of law, and they are typically very flexible with employers who want to downsize.

The combination of heavy spending on public education and well-developed vocational training systems has created a much more compressed skill structure compared to the liberal, general skills countries. This is not only a product of the fact that workers at the bottom have specific skills that the workers do not have in general skills countries but also because those at the bottom have better general skills. Clearly, having good general skills (especially literacy, math, and information technology knowledge) is a precondition for acquiring more technical skills—something that is probably increasingly true with more knowledge-intensive production.<sup>3</sup> The combination of excellent technical skills and a solid basic education has enabled the most productive companies to be very successful in high value-added international niche markets, whether those markets are in specialized machine tools, furniture, or high-quality processed agricultural products. But the broad acquisition of good general skills has also helped the Nordic countries cope with the rise of services. Although deindustrialization initially posed difficult problems for these countries, as it did in other continental European countries with relatively compressed wages and extensive labor market regulation (Iversen & Wren, 1998), the Nordic countries have been very successful in communications and information technology services and applications. One may perhaps see this as an unintended consequence of policies pursued before the Internet, laptop, and cell phone were even invented, but they do reflect very deliberate policies to invest in basic education.

Another result of frequent center-left governments has been a notable expansion of public service employment. Although Saint-Paul (1996) and Rueda (2005) suggest otherwise, we believe this has shored up employment while preventing the development of either deep insider-outsider divisions (as in the continental European countries) or stark wage inequality as in the liberal countries. It has probably also served as a form of insurance, because a large number of two-earner families can count on at least one secure income from a public sector job—something that may also have the added benefit of reducing precautionary saving and maintaining consumption in an otherwise depressed European macroeconomic environment (Soskice, 2007).

More important for our purposes, public provision of day care services is a policy with multiple positive effects: (a) on the demand side, it provides jobs; (b) on the supply side, it allows parents to enter the workforce or increase working time; (c) it provides early childhood education, which is particularly important for children of less educated parents (Esping-Andersen, Gallie, Hemerijck, & Myles, 2002); and (d) it has facilitated higher fertility rates by allowing women to better balance family and career (high fertility rates are important for the long-term funding of the welfare state).

The postwar Nordic welfare states were differentiated from the European CD welfare states and the liberal welfare states through a complex interactive process between social democratic governance, union strength, extent of union contract coverage, women's labor force participation, and the expansion of public social service employment (Huber & Stephens, 2000). By the mid-1960s, vigorous growth in the economies of northern continental Europe (Austria, Switzerland, Germany, France, and Benelux) and Scandinavia had produced high rates of male labor force participation and very low unemployment among males. Unlike the northern continental countries, owing in part to the influence of the strong union movements, the Scandinavian countries limited the recruitment of non-Nordic foreign labor, which meant increased job opportunities for women in the private sector (Jenson & Mahon, 1993, p. 87). At the same time, the debate in Sweden about gender equality produced a commitment among social democrats to a dual-earner household model, and government policy began to promote this goal, beginning in 1971 with the transition to separate taxation. The growth of women's labor force participation, rising divorce rates, and political mobilization in turn stimulated demands by women for financial independence and the expansion of day care and other social services (Iversen & Rosenbluth, 2006). With a historical commitment to equality and employment, social democratic governments were well positioned to take advantage of these new issues, spurring a remarkable expansion of the public social service sector. Because public social service jobs were filled disproportionately by women, it stimulated further expansion of women's labor force participation and, as a consequence, women's political mobilization. By the mid-1970s, all four Nordic countries were characterized by high levels of women's labor force participation and high levels of employment in public health, education, and welfare. This feedback cycle between left government and union strength, women's labor force participation, women's political mobilization, and public service employment continued into the early 1980s in Denmark and the late 1980s in Sweden and Finland, when the employment crisis hit these countries. Indeed, the main area of welfare state innovation in all four Scandinavian countries in the 1970s and 1980s was in

policies enabling women to enter the labor force, not only through providing services such as day care but also through transfers, such as paid parental leave. This changed the political alignments of women. By the early 1990s, women in Scandinavia were more likely to vote for left-wing parties and more likely to support expansion of the welfare state than were men (Oskarson, 1992; Svallfors, 2006, ch. 5; Valen, 1992).

*CME with PR electoral institutions and a strong CD party.* In these countries there are also incentives to try to exclude the liberal-conservative right from governing coalitions, but because CD parties are cross-class coalitions, they can be attractive coalition partners for centrist, middle-class parties; such coalitions have ruled for long periods of time in countries such as Germany and Italy. Because it is difficult to agree on significant redistribution between groups within the CD party, the focus has been on earnings-related or occupation-related social insurance and job protection, guaranteeing each major group a high level of social protection. Unskilled and semiskilled workers are largely organized by left parties outside the CD-center coalition, and massive redistribution along Scandinavian patterns has been rare as a consequence. The exceptions are cases where CD parties have been unable to govern without support from another major party and thus have often formed coalitions with the social democrats (as in Belgium and the Netherlands).

In terms of the composition of skills, high protection has facilitated investment in firm-specific and industry-specific skills, and all the continental European countries (with the partial exception of France) feature well-functioning vocational training institutions and collective bargaining systems. These institutions aside, the CD system has favored skilled workers and largely ignored the interests of low-skilled and semiskilled workers—a pattern that is reinforced by unions controlled by the former (and low to moderate overall unionization rates). Support for heavy public spending on the preschool and primary education of children from low-income families has been correspondingly lower compared to the Scandinavian countries, although the vocational training system has offered opportunities for skill acquisition that are missing in the liberal countries.

As a result of these political conditions, the continental CD welfare states followed a different postwar trajectory than the Scandinavian countries did. The labor migration issue was handled differently, as foreign labor was imported in large numbers, perhaps because of a combination of the CD emphasis on the traditional male breadwinner family and the weaker union influence on labor recruitment policies. However, union contracts in

these countries cover a large proportion of the labor force (Golden, Lange, & Wallerstein, 1999), which prevented the expansion of a low-wage service sector, a source of employment for women in liberal welfare states (Esping-Andersen, 1990). Moreover, in contrast to the Scandinavian unions, which gradually gave up their opposition to part-time work in response to pressures from the women's movement, the continental European unions, including those close to the social democrats, continued to oppose part-time work (Klausen, 1999). CD parties instead substantially increased transfers to families and designed tax policies to encourage women to stay at home. As a result, among the three types of welfare states, women's labor force participation is the lowest in the continental CD welfare states.

The combination of a welfare state that supports highly effective specific skill training systems and associated industrial relations institutions and a party system that generates little political support for investing public money in basic training at the preschool and primary school level and in policies that enable women to combine work and family has created some unique problems for the continental European welfare states. Because wages are relatively compressed and labor markets heavily regulated, the undersupply of basic general skills has not been conducive to service sector expansion or taking advantage of the communications and information technology revolution. At the same time, CD parties have been in no hurry to raise the provision of public services, especially in the day care area where social democrats clearly have an electoral advantage, preferring instead to subsidize families and stay-at-home mothers through a generous transfer system. The result has been sluggish expansion of new jobs, which may have been reinforced by depressed macroeconomic demand as increased labor market uncertainty has led to precautionary savings among mostly single-earner families (Soskice, 2007). The effect of these policies has also been to reduce fertility below sustainable levels, as women sacrifice family to have at least part-time careers.

## Higher Education

Our discussion has been mostly focused on investment in vocational training and basic education. But the politics of educational investment has shifted in the past two decades with increasingly human capital-intensive technologies. As primary and secondary education has become nearly universal, the conflict is increasingly over investment in higher education (Ansell, 2005; Busemeyer, 2007). All parties understand the importance of such investments for growth, but children of skilled blue-collar workers face very significant invisible class barriers in accessing higher education. For this reason, the traditional constituents of left parties may see the massive investment in

university education as a regressive transfer to the rich. In fact, if data from the United Kingdom in 1993 are indicative of a general pattern, this is not the case. The ratio of spending per person in the bottom quintile group to that of the top quintile group is 0.7 (Sefton, 1997), which indicates that the rich do benefit more from this kind of spending. However, one has to consider which group pays the taxes that pay for these benefits to calculate its distributive effects. In the United Kingdom in 1993, the top quintile received 41.2% of total household income and the bottom quintile received 7.5%, or .18 of what the top received. Thus, if higher education spending were financed by a proportional or even a moderate regressive tax, such as a value added tax, there would be a net transfer to the bottom quintile. Nevertheless, it is true that spending on higher education was the only category of social service spending included in this study that did not benefit the bottom quintile greater than the top in per capita terms; thus, if distributive outcomes were the only concern, higher education would not be the first choice for parties of the left.

This might appear to give the right an advantage in courting the middle class by offering support for public investment in higher education without taxes to fund redistribution. But the center and left do share an interests in redistribution, and if educational reform is linked to aggressive efforts at reducing the class bias in university enrollment—possibly coupled with fees for children of wealthy parents—spending on higher education can also be turned into a matter of common interest for the center–left. Indeed, policies designed to improve working class’ access to higher education have been pursued with some success in both Great Britain and Scandinavia, and they are linked to left governments (Busemeyer, 2007). Continental European countries, on the other hand, seem to be lagging behind, probably again because the left is often not necessary to form governing coalitions. The politics of access to higher education thus displays some of the same patterns as the politics of primary and secondary educational spending, even though spending on higher education is clearly an issue that the right also cares about (at least when private alternatives are limited).

## Summary

Table 1 summarizes the discussion in terms of the cluster we would expect in countries combining different political, economic, and partisan attributes. All CMEs have strong demand for, and investment in, vocational training, whereas it is largely absent in LMEs. The differences between the social democratic and CD varieties of CMEs largely reflect the de facto inclusion of lower income groups and outsiders in governing coalitions

**Table 1**  
**Expected Policy Profiles of Different Worlds of Human Capital Formation**

	Coordinated Market Economies and Proportional Representation		Liberal Market Economies and Majoritarian
	Social Democratic	Christian Democratic	Liberal
Day care or preschool	High	Low	Low (but substantial private provision)
Primary and secondary Higher education	High High??	Medium Medium	Medium Medium (but substantial private component)
Active labor market policy Vocational	High High	Low High	Low Low

(this pertains to public spending on basic education, including early childhood education and active labor market policy), as well as the politicization of female employment (high day care spending). We would expect the LME countries, with majoritarian electoral systems and a preponderance of center-right governments, to be mainly distinguished by a lack of vocational training and high investment in higher education, although much of the latter is privately funded.

### Empirical Evidence

Our empirical analysis proceeds in three stages. The variables we use in all three stages are defined in Table 2. First, we present various measures of human capital by welfare state and production regime for the 1990s (Table 3). These include policy measures—public education spending, public higher education spending, day care spending, active labor market policy spending, and vocational education attendance—that are transparently related to human capital formation. As Estevez-Abe et al. (2001) argue, high unemployment replacement rates support specific skills systems, because they allow for longer job searches for those with skills that are difficult to transport. They also hypothesize that the job security provided by employment protection laws encourages workers to invest in specific skills.

On the output side, our measures of general skills in the adult population are all drawn from the OECD/Human Resource Development Canada study

**Table 2**  
**Variables Used in Analysis**

Variables	Source
<u>Pooled analysis</u>	
<i>Dependent variables</i>	
Active labor market policy spending as a percentage of GDP/unemployment	OECD, 2007
Public education spending as a percentage of GDP	OECD, 2007
Public spending on tertiary education as a percentage of GDP	OECD, 2007
Day care spending as a percentage of GDP	Jaumotte, 2003
<i>Political variables</i>	
Left cabinet: Scored 1 for each year when the left is in government alone, scored as a fraction of the left's seats in parliament of all governing parties' seats for coalition governments, 1946 to date	Huber et al., 2004
Christian Democratic cabinet: Religious parties' government share, coded as for left cabinet (Huber, Ragin, & Stephens, 1993)	Huber et al., 2004
Constitutional structure: Veto points created by constitutional provisions <sup>a</sup>	Huber et al., 2004
Women's mobilization: Women's organizational membership estimate by women's seats in parliament and the representational system <sup>a</sup>	Huber et al., 2004
<i>Controls</i>	
Aged population: Percentage of the population over 65 years old	Huber et al., 2004
Voter turnout: Voter turnout as a percentage of the adult population	Huber et al., 2004
Strikes: Working days lost per 1,000 workers	Huber et al., 2004
Authoritarian legacy: Political regime in the late 19th century	Huber et al., 2004
GDP per capita: Gross domestic product per capita thousands in constant U.S. dollars	Huber et al., 2004
Consumer Price Index: Percentage increase in the consumer price index	Huber et al., 2004
Unemployment: Percentage of total labor force unemployed	Huber et al., 2004
Military spending: Military spending as a percentage of GDP	Huber et al., 2004
Outward foreign direct investment as a percentage of GDP	Huber et al., 2004
Openness: Imports + exports as a percentage of GDP	Huber et al., 2004
<u>Cross-sectional analysis</u>	
Vocational education: Percentage of an age cohort in either secondary or postsecondary vocational education	Estevez-Abe, Iversen, & Soskice, 2001
Literacy test scores: Average for given percentile score of the adult population on the three parts of the OECD/HRDC literacy test	OECD/HRDC, 2000
Low literacy: Percentage of the adult population scoring Level 1 (lowest level) on the OECD/HRDC literacy test	OECD/HRDC, 2000
Information age literate: Percentage of the adult population scoring Level 3 or better on the OECD/HRDC literacy test	OECD/HRDC, 2000
12-month net unemployment replacement rate	
Wage dispersion: 90 to 10 ratio	Huber et al., 2004
Gini: Post tax and transfer Gini of the population aged 25 to 59	Luxembourg Income Survey, own calculations
Employment protection legislation: OECD overall employment protection	OECD, 2004

Note: Huber et al., 2004 = Huber, Ragin, Stephens, Brady, & Beckfield, 2004; OECD = Organisation for Economic Cooperation and Development.

a. See online appendix for details: <http://www.people.fas.harvard.edu/~iversen/Iversen&StephensAppendix.pdf>.

**Table 3**  
**Measures of Human Capital by Welfare State and Production Regime**

	Public Education Spending		Public Higher Education Spending		1-Year Unemployment Replacement Rate		Active Labor Market Policy Spending per Employed Person		Employment Protection Laws		Score on the OECD Literacy Test				
	Spending	Spending	Spending	Spending	Rate	Rate	Spending per Employed Person	Spending per Employed Person	Laws	Education	Vocational Education	Percentile			
												5th	25th	75th	95th
Social Democratic welfare states: Industry coordinated market economies															
Sweden	7.5	1.9	1.6	0.80	0.40	2.7	36	216	274	340	386	7	74		
Norway	7.5	1.9	1.5	0.66	0.21	2.8	37	207	267	326	362	8	69		
Denmark	8.1	2.1	2.0	0.65	0.24	1.9	31	213	264	319	353	8	65		
Finland	6.6	2.0	1.2	0.62	0.15	2.2	32	195	258	322	363	11	63		
Mean	7.4	2.0	1.6	0.68	0.25	2.4	34.0	207.9	265.9	326.7	366.0	8.5	67.6		
Christian Democratic welfare states: Industry coordinated market economies															
Austria	5.7	1.3	0.5	0.33	0.09	2.2	22	163	247	315	359	17	58		
Belgium	5.1	1.2	0.5	0.64	0.15	2.9	53	202	260	317	354	10	63		
Netherlands	5.1	1.5	0.4	0.75	0.25	2.6	43	208	255	317	359	10	59		
Germany	4.6	1.1	0.4	0.61	0.19	3.0	34	150	244	310	349	17	53		
Switzerland	5.5	1.2	0.1	0.58	0.17	1.1	23	181.0	251.5	314.7	355.3	13.5	58.1		
Mixed economies															
France	5.7	1.0	0.8	0.71	0.11	3.0	28	146	246	315	369	17	56		
Italy	4.5	0.8	0.1	0.41	0.03	3.4	35	145	244	324	372	17	57		
Mean	5.2	1.1	0.4	0.58	0.14	2.6	34.0	181.0	251.5	314.7	355.3	13.5	58.1		
Liberal welfare states: Liberal market economies															
Australia	5.0	1.4	0.2	0.30	0.06	1.0	9	158	237	313	361	20	51		
Canada	6.2	2.1	0.3	0.47	0.06	0.8	5	151	227	306	352	24	46		
Ireland	4.8	1.2	0.1	0.34	0.12	0.9	6	158	237	313	361	20	51		
New Zealand	6.7	1.7	0.0	0.17	0.06	0.6	11	145	231	313	359	23	49		
United Kingdom	5.1	1.1	0.1	0.29	0.04	0.2	3	133	235	319	371	22	53		
United States	5.3	1.3	0.2	0.29	0.04	0.2	3	133	235	319	371	22	53		
Mean	5.5	1.4	0.2	0.31	0.07	0.7	6.8	146.3	236.7	315.1	364.0	20.5	52.0		
Group coordinated market economy															
Japan	3.6	0.5	0.2	0.35	0.11	2.1	16								

(OECD/HRDC, 2000). In this study, a cross-nationally comparable test of respondent skills in prose, document handling and interpretation, and mathematics (roughly analogous to the American SAT) was administered to a random sample of the adult population in 14 of the 18 postindustrial democracies included in our analysis. Table 3 includes the average scores of the 5th, 25th, 75th, and 95th deciles. The authors of the literacy study also identified five broad levels of literacy. The last two columns of Table 3 contain the percentage of the adult population scoring only at Level 1, the lowest level, and the percentage of the population scoring at Level 3 or better, which the authors designate as “information age literate.” Our vocational education data also serve as an output measure indicating cross-national differences in levels of specific skills.

### **Welfare State, Production Regimes, and Human Capital**

Table 3 shows that the LME–CME differences in specific skills as indicated by vocational education are striking. There are nuanced differences, however, in how social democratic and CD regimes support specific skill development. CD regimes provide high levels of job security as indicated by the high employment protection score. The social democratic regimes are more focused on providing high levels of support during the job search process and providing training to reskill or upskill workers, as indicated by the high unemployment replacement rates and the high levels of active labor market policy spending.

On all the education spending measures—overall education, higher education, day care, and active labor market policy—the social democratic regimes rank the highest, so it is no surprise that they also score the highest on all indicators of general skills derived from the OECD literacy study, though the lead over liberal welfare states at the top, the 95th percentile, is slight. The two North American countries, known for their excellent university systems, have the highest scores at the top end, with the exception of Sweden. In general, it can be said that cross-national differences are much greater at the bottom of the general skills distribution than at the top: The standard deviation at the 5th percentile is 30.9 but only 9.5 at the 95th percentile.

On overall education, higher education, and day care spending, the CD welfare states are similar to the liberal regimes. However, their general skills at the bottom are significantly better. We would attribute this difference to the incentives for general skills acquisition in vocational education (specific skills) systems for those not intending on pursuing higher education. An additional reason might be the higher levels of active labor market policy spending.

As one might expect, given their low scores on all of our input variables, the liberal welfare states as a group do not do well on any aspect of the human capital formation except the literacy scores at the top where they achieve parity with social democratic regimes. At first glance, the latter might seem surprising, given that public spending on higher education is so low. But it is easily explained by the fact that private spending on higher education is so much higher in the liberal groups than in the other regimes (0.58% compared to an average of 0.13% in all other countries in Table 3). The fact that the 95th percentile in Canada and the United States score second and third only to Sweden is very likely a product of their high levels of total (public and private) higher education spending (2.6% of GDP in Canada and 2.7% in the United States).

In Table 1, we indicated ambiguity about the hypothesized effect of social democratic government's spending on higher education. This represents a tension between the historical record of social democratic policy and the distributive effects of spending on higher education. Generally, social democratic parties have favored the transformation of the elitist European systems, in which students were separated out into different tracks headed for different occupations (and social classes) as early as age 12, toward the more democratic North American systems with universal secondary school in comprehensive high schools and wide access to higher education. Social democrats believed that this would afford the offspring of workers more opportunities for social mobility. On the other hand, in the case of higher education, there is little question that increased spending represents a transfer of resources from the taxpayers in general to relatively privileged groups. This is true from the perspective of both the parents and students' generations. We know from myriad of studies in the sociology of education that students in higher education are drawn disproportionately from upper strata and are bound, even more disproportionately, to these same strata. This tension within social democracy is lessened as women have increasingly become a social democratic constituency. We have made the case that women have a particular interest in expansion of public investment in the general skills system. In many countries, women now outnumber men in the public higher education system, so investment in higher education transfers resources disproportionately to women.

## Determinants of Education Spending

Table 4 displays the results of our pooled time series analysis of the determinants of spending on education, higher education, day care, and active labor

**Table 4**  
**Prais-Winsten Estimates of Determinants**  
**of Human Capital Spending Policies**

	Active Labor Market Policy Spending per Unemployed	Public Education Spending	Public Higher Education Spending	Day Care Spending
Left cabinet	.010**	.096***	.042***	.039***
Christian Democratic cabinet	.000	-.003	.001	-.005**
Constitutional structure	-.016	-.016	.019	-.070
Women's mobilization	-.006	.036*	.036***	.007
Percentage of aged persons	-.029**	-.229***	-.130***	-.050
Voter turnout	-.003	-.026**	-.011**	-.009**
Strikes	-.022	.738	2.540***	.543*
Authoritarian legacy	.037*	.054	-.030	.169***
GDP per capita (1,000s)	.011**	-.061*	-.052**	.000
Consumer Price Index	-.020	-.244**	-.242***	-.123***
Unemployment		.074***	-.021	.010*
Military spending	.011	.204**	-.019	.017
Foreign direct investment	.003	-.051**	-.011	-.010***
Trade openness	.000	.007	.007***	.000
Constant	.553*	8.931***	3.613***	1.285
Common rho	.86	.83	.39	.89
$R^2$	.37	.87	.73	.43
$N$	304	336	138	303

\* $p = .05$ . \*\* $p = .01$ . \*\*\* $p = .001$ .

market policy. The regressions are Prais Winsten estimates—panel-corrected standard errors and corrections for first-order autoregressiveness.<sup>4</sup> The first four variables in each regression are the political variables of interest. The remaining variables are controls that are drawn from the literature on the determinants of social spending and are the same controls used by Huber and Stephens (2000, 2001, 2006). The independent variables are exactly the same as those included in Huber and Stephens's (2006, pp. 154-158) analysis of eight indicators of welfare state effort—primarily different measures of social spending—so the interested reader can compare those findings to these.

As hypothesized, left government is strongly associated with all four human capital spending variables (with the qualification just noted about higher education). By contrast, CD government is negatively related to day care spending and not significantly related to the other three education spending variables (i.e., not distinguished from liberal governments). The constitutional structure veto points variable is not significant in any of the

equations. Women's political mobilization is positively and significantly related to education spending and higher education spending but not to active labor market policy spending and day care spending. Our (non)finding on day care was quite unexpected, because it is the quintessential work and family reconciliation policy. We reason that the effect of women's political mobilization might be indirect via social democratic government. To test this hypothesis, we dropped left government from the equation, which did result in the coefficient for women's mobilization becoming larger and highly significant.

### **Welfare State and Production Regimes Complementarities**

The OECD literacy study and the vocational education data are only available cross-sectionally. This limits the complexity of statistical analysis that we can use. This is not a great handicap for our argument, because our main claim is not a causal one, or at least not a unidirectional one. Rather, in most cases, we argue for mutually reinforcing complementarities. In any case, the correlations between these features of the WPR are so high that it is hardly plausible that they are a chance occurrence (see Table 5).

The difference between the specific skills and general skills complementarities suggested in Table 3 are immediately apparent in Table 5. Vocational education, our measure of specific skills, is highly related to EPL and unemployment replacement rates, as hypothesized by Estevez-Abe et al. (2001). Figure 1 illustrates the relationship between vocational education and employment protection. One can see that, in contrast to the general skills pattern, the Nordic countries are not at the extreme end of the graph. As we suggested in our discussion of Table 3, there appears to be two somewhat different paths to high levels of specific skills: a Nordic one with moderate employment protection, high unemployment replacement rates, and high levels of active labor market policy; and a continental one with high levels of employment protection, moderate unemployment replacement rates, and moderate levels of active labor market policy spending. Indeed, multiple regressions (not shown) show that employment protection and unemployment replacement rates explain 78% of the variation in vocational education, whereas employment protection and active labor market policy explain 77% of the variation.

Like specific skills, general skills at the bottom of the distribution (5th percentile) are also very strongly related to EPL and unemployment replacement rates. In contrast to specific skills, general skills at the bottom are very strongly related to active labor market policy spending and day care spending.

**Table 5**  
**Correlations of Human Capital Policies and Outcomes**

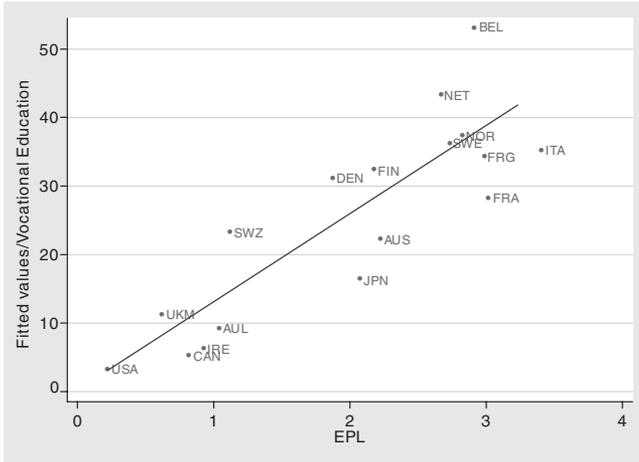
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Active labor market policy spending	—	—	—	—	—	—	—	—	—	—	—
(2) Public education spending	.58	—	—	—	—	—	—	—	—	—	—
(3) Public higher education spending	.47	.89	—	—	—	—	—	—	—	—	—
(4) Day care spending	.69	.80	.63	—	—	—	—	—	—	—	—
(5) 1-year unemployment replacement rate	.79	.53	.44	.65	—	—	—	—	—	—	—
(6) Employment protection laws	.41	.08	-.11	.37	.65	—	—	—	—	—	—
(7) Vocational education	.58	.16	.05	.49	.76	.86	—	—	—	—	—
(8) Wage dispersion	-.58	-.33	-.20	-.40	-.63	-.70	-.65	—	—	—	—
(9) Posttax and transfer Gini (households aged 25 to 59)	-.75	-.70	-.65	-.82	-.79	-.55	-.69	.72	—	—	—
(10) 95th percentile literacy score	.25	.36	.42	.27	.14	.07	-.06	.10	-.12	—	—
(11) 5th percentile literacy score	.84	.54	.45	.79	.82	.84	.73	-.60	-.85	.13	—
(12) Percentage of information age literate	.79	.67	.64	.84	.82	.73	.67	-.50	-.86	.48	.83

They are also strongly related to vocational education, which supports the view that, in vocational education systems, youths who are not planning on attending higher education institutions have stronger incentives to improve their general skills than youths in systems with weak or no vocational education institutions. Figure 2 presents scatterplots of the relationship between general skills at the bottom and active labor market policy. Here, the Nordic countries are at the extreme end of the graph. A scatterplot of literacy at the 5th percentile and day care spending (not shown) exhibits a similar pattern.

Information age literacy is strongly to very strongly related to all policy variables (1 through 7 in Table 5). In addition, it is extremely strongly and negatively related to the degree of inequality, measured here by the Gini index for disposable household income among households in which the household head is aged 25 to 59 years old. The correlations between information age literacy and the 5th and 95th percentile scores indicate that variations in information age literacy are primarily a product of variations at the low end of the distribution, and it is there that the inequality factor plays a large role as indicated by the fact that the national average 5th percentile score is very strongly related to inequality, whereas there is virtually no relationship between the average 95th percentile score and inequality.

We are not suggesting that this is a unidirectional causal relationship. It is clear that much better skills at the bottom will lead to higher incomes at the bottom and thus to less inequality. However, we would contend that

**Figure 1**  
**Vocational Education and Employment Protection Legislation**

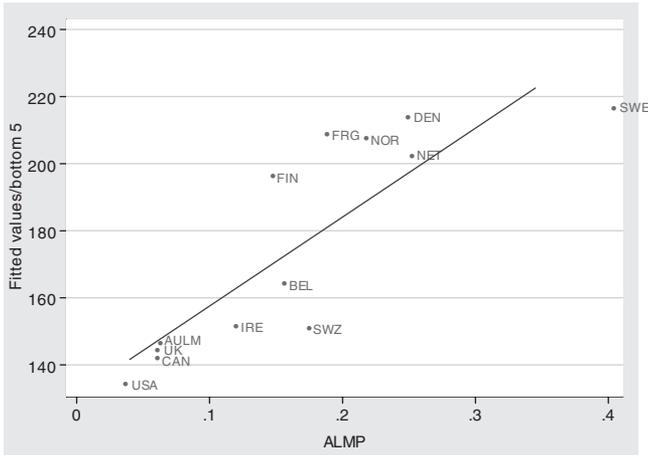


Note: EPL = employment protection legislation; AUL = Australia; AUS = Austria; BEL = Belgium; CAN = Canada; DEN = Denmark; FIN = Finland; FRA = France; FRG = Germany; IRE = Ireland; ITA = Italy; JPN = Japan; NET = Netherlands; NOR = Norway; SWE = Sweden; SWZ = Switzerland; UKM = United Kingdom; USA = United States.

some of the causality runs in the opposite direction, from inequality to human capital formation. The extremely low levels of long-term poverty among working-age adults in the Nordic countries surely contribute to the high levels of skill acquisition at the bottom. Being able to afford high quality day care—really early childhood education—certainly plays a large role here (Gornick & Meyers, 2003, ch. 7). As Esping-Andersen points out, the effect of this investment in children in the Nordic countries is especially apparent in the younger cohort who were the first generation to experience universal access to high-quality day care. Among those aged 16 to 25, the correlations between parents’ education and performance on the OECD literacy test is much lower than it is in countries such as the United States and Canada (Esping-Andersen et al., 2002, pp. 27-28; OECD/HRDC, 2000, p. 142).

Early statistical analyses of wage dispersion found that it was highly related to bargaining centralization, union density, and left government, so it appeared as an imposition on the operation of the labor market. By showing that vocational education is strongly and negatively related to wage dispersion, Estevez-Abe et al. (2001) show that it is in part due to high levels of specific

**Figure 2**  
**Fifth Percentile Literacy Score and Active Labor Market Policy Spending**



Note: ALMP = active labor market policy; AUL = Australia; BEL = Belgium; CAN = Canada; DEN = Denmark; FIN = Finland; FRG = Germany; IRE = Ireland; NET = Netherlands; NOR = Norway; SWE = Sweden; SWZ = Switzerland; UKM = United Kingdom; USA = United States.

skills among manual workers. Our analysis shows that the high level of general skills at the bottom reinforces this pattern. Thus, equal distribution, far from being an imposition of the welfare state and labor market institutions on the operation of labor markets, is part of a set of institutional complementarities (columns 1 through 7 in Table 5) that produce both high levels of general and specific skills, wage compression, and high levels of income equality (columns 7 through 9, 11, and 12 in Table 5).

Data produced by the World Economic Forum offer some evidence that the OECD's national average information age literacy score as well as public higher education spending are related to international competitiveness in information and communication technology. The Forum's networked readiness index is composed of 67 measures to produce an index "aimed at gauging countries' capacity to leverage ICT for growth and development" (Dutta & Mia, 2006, p. x). In the most recent rankings, Denmark, Sweden, and Finland are ranked the highest among the countries in our analysis. The correlations between the index and information age literacy and public higher education spending are .51 and .55, respectively.

It is striking that general skills at the top of the distribution, the average national 95th percentile score on the literacy test, are not very strongly related to any of the human capital policies in Table 5. Our discussion above of private higher education spending in some of the liberal countries suggests that adding in private spending on higher education would yield stronger results; and indeed, the correlation of total education spending to the 95th percentile score, .58, is higher than the correlation with public spending alone. However, we note again that the cross-national differences in these scores are not very large.

## Changes Over Time: Some Reflections

### Origins

The fact that public education predates democracy and the early welfare state suggests how closely related it is to production and economic efficiency. Human capital is a factor of production, and as such, an engine of economic growth. But skills are a very special form of capital, because they cannot be dissociated from the workers who possess them, and workers are free under capitalism to sell their human capital in the labor market. This makes public investment in education a key determinant of bargaining power and inequality, and hence also a matter of distributive politics. Insofar as democracy is a function of the strength of labor and the political left, as argued in Rueschemeyer, Stephens, and Stephens (1992), we should expect democracy to be associated with more investment in public education for the masses. Ansell (2005) produces ample empirical evidence for this proposition. But if we want to understand the origins of the three worlds of human capital formation, we need a more fine-grained analysis. Cusack et al. (2007) provide pieces for such an analysis, building on Crouch (1993), Thelen (2004), and others. Here, we briefly summarize the historical argument as it relates to different human capital regimes.

Cusack et al. (2007) suggest that industrialization and democratization had a very different effect on the development of skill systems and redistribution depending on the preindustrial organization of production and the predemocratic organization of the state. States that subsequently adopted PR political institutions and CME production systems were originally *Ständestaaten*, with functional representation of economic interests, which featured locally coordinated rural and urban economies at the end of the 19th century with some mixture of rural cooperatives and regulated artisan systems. By contrast, those

states that subsequently emerged as majoritarian countries with LME production systems had liberal states that would not support the creation of corporatist representation, and they displayed an economic structure at the turn of the century with large independent farms and landless agricultural labor coupled with weakly or unregulated artisan systems.

These differences in the institutions of the state and the production system contributed critically to the organization of unions and employers and to the political and economic preferences of businesses and the right. Where guilds were weak or abolished early, the artisan sector was not able to monopolize the production of skills, and unions consequently came to represent craftsmen who had a strong incentive to limit entry into the craft and to control job content within companies to prevent the dilution of skills. Because employers were poorly organized and because the liberal state could not be used to overcome collective action problems, employers in response pushed for deregulated labor markets, minimizing welfare and unemployment benefits to weaken the power of the craft unions. By investing in capital-intensive technologies that reduced the need for skilled labor and by relying heavily on the external labor market, the power of unions was minimized and the possibility for an effective and cooperative vocational training system was effectively eliminated. The split of interests between skilled workers and unskilled workers prevented the emergence of a unified working class, and the right had no reason to oppose a majoritarian political system that would cement this division by effectively incorporating skilled workers into the middle class while preventing redistributive alliances with the left. Without a cooperative system of industrial relations or a certified system of skill formation, there was no reason for the right, or the elite of the working class, to push for a proportional, consensus-based political system that could support an institutional framework for labor market regulation and skill formation.

Continental European countries and Scandinavia took a very different route. Both peasantry and artisans operated within locally coordinated frameworks, peasants owned or had strong tenure on their land, and the artisan urban sector was formally or informally regulated. The existence of a relatively effective and formalized artisan training system was important, not only because it produced a large supply of skilled workers for the burgeoning industrial revolution but also because it meant that the union could not build strategies based on the control of the supply of skills or job content (Thelen, 2004). In both continental and Scandinavian economies, therefore, unions gradually came to see a common interest with industrial employers in extending the vocational training system and deepen the skills

of workers. While most firms were initially hostile to unions, the union strategy gradually evolved into one of offering cooperation in exchange for collective bargaining rights, which is the basis for the cooperative industrial relations and vocational training systems that emerged in these countries. Little constraint was put on associational activity in developing industries because of a *Ständestaat* that permitted the emergence of a neocorporatist system of organization (Crouch, 1993).

The historical record makes it clear that the VoC developed before the welfare state regimes, which were not fully recognizable until the late 1960s, when the expansion of public social services and higher education and increases in female labor force participation began to clearly differentiate the social democratic and CD regimes. Strong employer organization, another essential element of the CME in addition to the system of vocational education discussed above, was already in place in 1914 (Crouch, 1993, pp. 112-113). With the exception of Denmark, high degrees of industrial concentration, especially in the export sector, certainly facilitated the development of strong, centralized employer federations (Ingham, 1974). Stephens (1979) and Kjellberg (1983) argue, and Crouch (1993) concurs, that strong labor organization developed in kind of a dialectic with a strong employer organization. Initially, employer organizations attempted to suppress labor. To fight employers in these countries, labor was forced to adopt a similar centralized structure and organize workers in all firms that were members of the employers' associations. By the mid-1920s, unions in all of the CMEs except Finland had developed centralized structures (Crouch, 1993, pp. 138-139) and experienced surges in union membership (Stephens, 1979, p. 115). In none of the LMEs did the unions develop similar centralized structures. In Switzerland, the Nordic countries, and the Benelux countries, where democracy survived, one sees the development of capital-labor compromises and party political compromises in the 1930s, which paved the way for the development of neocorporatism and the distinct welfare regimes in the postwar period (Huber & Stephens, 2001; Katzenstein, 1985; Stephens, 2007).

Politically, as Katzenstein (1985) has emphasized, the complement to corporatism was PR. The right side representing businesses had a strong reason to favor PR, because it was the only system of representation once industrialization had moved to the national level, which would allow for joint regulation of training standards, industrial relations, and social insurance when coupled with a corporatist system of bureaucratic bargaining between unions and employer associations. In majoritarian median voter systems, neither business nor labor has guarantees that government will

support the sweep of labor market and training arrangements that a cooperative arrangement requires.

As discussed above, however, PR comes at the cost to the right in terms of more center-left governments and redistribution. Again, one important form that such redistribution takes is investment in public education. Here, efficiency considerations again enter, because as we have argued above, good general skills may be complements to good vocational skills. Certainly, this complementarity is one of the reasons that PR has proved such a stable political system even in countries where the center-right has been in a position to change it.

Also, as we have emphasized throughout, where Christian democracy was strong, a political framework for cross-class collaboration was created without massive redistribution. Whether there are economic preconditions for the viability of CD parties is an important issue for historical research. Based on Herrigel (1996), Hechter and Brustein (1980), and others, Iversen and Soskice (2007) suggest that the peasant-dominated countryside was integrated into the urban economies in the continental countries to an extent that was not true in Scandinavia. Hechter and Brustein (1980) use the term "petty commodity production" for areas where Christian democracy grew strong in the early 20th century, and they suggest that the areas are discernable all the way back to the 12th century. They are essentially integrated rural-urban networks based on production by rural artisans, putting-out of work to small farms, dispersion of ownership, and lack of a rigid class structure. Such integrated economic networks, based on heavy investment in cospecific assets, may be fertile soil for cross-class coalitions and could help explain the continued success of CD parties. At least the organization of these rural areas stands in contrast to the Scandinavian countries, where agriculture did not have the same tight links and dependency on urban economies and developed separate economic and political organizations. With no economic basis for a broad middle-class party—red-green and later center-left—coalitions became the norm.

As Hicks (1999, ch. 2-4) has shown, strong labor organizations and social democratic parties, and to a lesser extent CD parties, contributed to the development of social policy before the post-World War II period. However, the development of the distinct welfare regimes was not discernable by this time: The group of countries that had achieved welfare consolidation by 1952 contained three liberal welfare states (United Kingdom, Australia, and New Zealand) and did not include one social democratic welfare state (Finland) and three CD welfare states (Switzerland, Germany, and France; Hicks, 1999, p. 115). The development of the three welfare

regimes is largely the product of different patterns of partisan government experienced by the end of first three postwar decades, though employers and unions' mutual interest in social insurance in CME certainly accounts for the development of generous social insurance where the political conditions were not favorable to other aspects welfare state generosity, as in Switzerland. The causal link between the interwar VoCs and the postwar party coalitions is the strength and structure of unions and the electoral system, with PR and centralized and at least moderate-strong unions characteristic of the interwar CMEs leading to social democratic dominance (Nordic countries), CD dominance (Germany), or CD–social democratic coalitions (Benelux). Variations among CMEs in postwar welfare state development are explained by variations in the strength of Christian democracy and the strength of unions, though the latter is partly endogenous as social democratic government–facilitated union growth.

Whether the Iversen–Soskice (2007) explanation for the cross-class nature of Christian democracy, as well as its political sustainability, is correct or not, the consequences for public educational investment at the low end of the skill distribution are undeniable. The CD compromise played down redistribution because of its cross-class nature and focused instead on social insurance of those inside the network. This is what splits the PR–CME countries—all displaying far more developed vocational training systems than Majoritarian-LME countries—into a social democratic group with strong investment in public education and a CD one where this is less true.

## Recent Changes

The combination of partisan educational spending, vocational training institutions, and industrial relations systems helps us understand cross-national differences in the distribution of wages. But how does one account for changes in the wage distribution over time?

PRT emphasizes changes in unionization rates and bargaining institutions, but behind these changes are changes in technology and production processes that alter the power of different groups of workers. The move toward centralized bargaining and compression of interoccupational wages that occurred across OECD countries in the 1960s and 1970s must be understood in the context of the spread of Fordist mass production technologies, which created strong complementarities between skilled and semiskilled workers and gave the latter a level of bargaining power that they had previously lacked. These complementarities were subsequently undone by technological changes in the 1980s and 1990s, which enabled small-batch

production and shifted demand toward skilled workers (Piore & Sabel, 1984; Streeck, 1991). They were further undone by the rise of services relying heavily on semiskilled labor, with few ties to skilled labor (which tended to be concentrated in skill-intensive sectors relying heavily on professionals).

In relatively fragmented bargaining systems such as the British, these changes meant that semiskilled unions lost influence on union membership. In some northern European countries with highly centralized systems, the changes caused skilled workers and their employers (especially in the engineering sector) to break out of the centralized system (Pontusson & Swenson, 1996). Yet in all the countries where skilled workers and employers had major investments in cospecific assets, wage coordination was re-established at the industry and at the sectoral levels. This reorganization of the bargaining systems was facilitated by powerful employer organizations coupled with a shift toward nonaccommodating macroeconomic policies (Iversen, 1999).

The main reason that semiskilled unions in countries such as Britain and the United States lost most of its members was the end of Fordism, which was based on a system of long assembly lines and tightly coupled production processes that gave unions the power to interrupt production. Unions in Australia and New Zealand were very dependent on the compulsory arbitration system to maintain their strength. Once this protection was removed in 1991 with the Employment Contracts Act in New Zealand, along with protectionist trade policies, their membership levels dropped catastrophically (Huber & Stephens, 2001, pp. 286-299), whereas in Australia, a gradual liberalization of labor market relations under Labour, which accelerated under the Liberals, resulted in a more gradual but very significant decline in union membership. This decline was furthered by partisan attacks on the organizational foundation of unions, though this is a phenomenon largely restricted to majoritarian countries. Most other countries experienced smaller declines, with the notable exceptions of Belgium, Denmark, Finland, and Sweden (Visser, 2006, 45). In these countries, the administration of unemployment benefits and allocation of new jobs is delegated to unions, which provides a distinct advantage in organizing workers (even when unions are in weak bargaining positions).

But although the effect of technological change was similar across countries, government responses varied notably. Even though semiskilled unions lost bargaining power everywhere, this was not accompanied by a weakening of the left over time. If we use expert surveys to gauge the left-right ideology of parties with legislative representation, weighted by their share of seats, we can see that there has been virtually no change in the partisan balance since

World War II. But there are distinct differences across countries, and partisan governments have responded to challenges of technological change and deindustrialization in very different ways that closely match the underlying class structure of governing alliances.

In countries with strong CD parties, there has been a tendency for the growing bifurcation of risks in the labor market to be reinforced by government policies—certainly in the sense that unemployment benefits and active labor market policies have not kept up with the growing needs of displaced workers (Pontusson, 2005). In countries with strong social democracy, by contrast, government policies have cushioned the effects of labor market changes. Although the alliance between skilled and semiskilled workers may have fallen apart in the industrial relations arena, this is not true in terms of public policies. Active labor market policies and generous unemployment benefits, coupled with expansion of public sector employment opportunities, have largely prevented a significant insider–outsider cleavage from developing. In LMEs, finally, the market has largely been allowed to adapt to the changes in the supply and demand for different types of labor, with no concerted government attempts to address the dramatic increase in inequality. Because low-income groups have virtually no say over government policies, the outcome is not surprising.

## Conclusion

In this article, we developed a synthesis of PRT and WPR to explain how and when the three worlds of welfare capitalism and the three worlds of human capital formation were shaped. We accept and build on the home domain propositions of the two theories. Based on WPR propositions, one can distinguish two social policy patterns (the CME pattern with high levels of social insurance and employment protection and LME pattern with low levels of social insurance and employment protection) and two patterns of education and skill formation (the CME pattern with high levels of vocational education and high levels of industry-specific and firm-specific skills and the LME pattern with low levels of vocational education and low levels of industry-specific and firm-specific skills). Based on PRT, we divide the CMEs into two different welfare state regimes; social democratic regimes with high levels of redistribution, high levels of public social service provision, high levels of gender egalitarian policies (e.g. public day care, parental leave), and high levels of women's employment; and CD regimes with varying levels of redistribution, low levels of public social service provision, low levels of

gender egalitarian policies, and low levels of women's employment. Electoral systems stand at the intersection of the two theories, because PR allows for coordination in the regulation of training systems, employment, and social protection, which is a key feature of the political system according to WPR, while PR induces minimal winning coalitions in fiscal policies that favor the center-left, which is central to PRT. Because CD parties are cross-class coalitions, they modify the relationship between PR and redistribution, resulting in social protection that is more insurance based.

We extend the WPR analysis of skill formation to general educational skills and, based on our statistical analysis, we find that there are three worlds of human capital formation that correspond to the three worlds of welfare capitalism. The social democratic regime is characterized by high levels of spending on day care and preschool, primary and secondary education, higher education, active labor market policy, and vocational education, and by moderate levels of employment protection, which results in high levels of industry-specific and occupation-specific skills and high levels of general skills, particularly at the median and the bottom of the distribution. Arguably, the high level of skill across the distribution is the root of these countries' success in information and communication technology. The CD regime is characterized by high levels of vocational education and employment protection; medium levels of public spending on primary, secondary, and tertiary education; and low levels of spending on day care, preschool, and active labor market policy, which results in high levels of firm-specific and industry-specific skills and moderately high levels of general skills at the bottom. The liberal regime is characterized by low levels of spending on day care and preschool; active labor market policy and vocational education; low level of employment protection; and moderate levels of spending on primary, secondary, and tertiary education. Private spending on higher education and, in some countries, day care is substantial in the liberal regime. This policy pattern results in low levels of specific skills and low levels of general skills at the bottom, but the levels of general skills at the top are comparable to those in the social democratic regime. Corresponding to these three worlds of human capital formation, one can detect distinct patterns of labor market stratification: High wage inequality in the liberal regime, high differentiation between secure insiders and insecure outsiders in the CD regime, and the relative absence of both divisions in the social democratic regime.

We trace the development of the VoCs back to the late 19th and early 20th century. By the beginning of World War I, the vocational skill training systems and strong employer organization of CMEs were already in place, and

most of them had shifted to PR. By a decade later, the CMEs had developed moderate to high levels of unionization and centralized unions, and the CMEs that had not already done so switched to PR. By World War II, the CMEs that remained democratic had developed labor market compromises and party political compromises based on PR, which prefigured postwar neocorporatism and the distinct welfare regimes. However, the three worlds of welfare and publicly financed skill formation were not clearly detectable as of 1950, though the electoral systems and party political alignments that created them in the subsequent three decades were. Countries with PR and significant CD parties produced CD coalition governments, in some cases with social democrats, and became associated with varying degrees of redistribution and public spending on education depending on the strength of social democracy and on the veto points in the political system. Countries without significant CD parties but with PR produced social democratic governments or social democratic-led center-left coalitions, which resulted in high redistribution and educational spending. Countries without significant CD parties and with plurality single-member district electoral systems disproportionately produced governments of the right (even in cases, such as New Zealand, Australia, and the United Kingdom, where Labour was electorally relatively strong), with relatively little redistribution and public spending on education.

## Notes

1. For this section, we rely heavily on past collaborative work with especially Evelyne Huber and David Soskice. The relevant cites are noted in the text.

2. We limit the analysis to this age group to ensure that we are measuring redistribution between income groups and not merely intergenerational redistribution (Bradley, Huber, Moller, Nielsen, & Stephens, 2003).

3. In light of the interaction between specific and general skills and the high basic level attained in most coordinated market economies, it is a bit of a misnomer to call these “specific skills countries” and liberal market economies “general skills countries.” Still, we believe that the labels capture important differences in the overall composition of skills and in the associated comparative advantage of companies in different countries.

4. It is common to use a setup with a lagged dependent variable (which removes first-order serial correlation) and panel-corrected standard errors (Beck & Katz, 1995). But a well-known problem is that the lagged dependent variable can bias the results for theoretically interesting variables, because the lagged dependent variable absorbs not only first-order serial correlation but also cross-national differences in levels (Achen, 2000). An alternative strategy is therefore to omit the lagged dependent variable and instead correct for AR-1 correlation in the residuals. This is the approach we use here. See the online appendix for details: <http://www.people.fas.harvard.edu/~iversen/Iversen&StephensAppendix.pdf>.

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