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National Skill Regimes, Postindustrialism, and Sex Segregation

Abstract

Data from ten industrial market societies are used to assess the relative explanatory power of two macro-structural accounts of cross-national variability in occupational sex segregation: one by Estévez-Abe, Iversen, and Soskice (in Varieties of Capitalism), which emphasizes effects of labor-market skill regimes and social policy provisions, and an alternative account, which emphasizes the segregating effects of postindustrial economic restructuring. Results suggest that a country’s level of postindustrial economic development is the more powerful predictor of men’s and women’s relative occupational distributions. Service sector expansion and economic rationalization interact with deeply institutionalized ideologies of gender difference to intensify some forms of gender inequality, generating surprising patterns of cross-national variation in sex segregation. Although occupational training requirements and social policy provisions undoubtedly help shape individual career choices, these institutional arrangements are themselves influenced by cultural beliefs about what men and women are good at and how they behave.

Occupational sex segregation is one of the most striking and persistent features of modern labor markets. Although women’s access to such public-sphere institutions as higher education and the labor market increased dramatically over the course of the twentieth century,
much less change occurred with respect to distributions within these institutions. More remarkable is the fact that sex segregation is often most extreme in precisely those countries that are viewed as most culturally progressive and most economically advanced (Charles and Bradley 2002, forthcoming; Charles and Grusky 2004).

Understanding patterns of sex segregation observed in advanced industrial societies requires attention to the ways in which occupational outcomes are influenced by prevailing structural arrangements and institutional forms. In this article, I use data from ten industrial market societies to assess the relative explanatory power of two macrostructural accounts of cross-national variability in occupational sex segregation: an account by Estévez-Abe and colleagues (2003), which emphasizes labor market skill regimes and social policy provisions, and an alternative account, which emphasizes the segregating effects of postindustrial economic restructuring.

The argument put forward in Chapter 4 of Varieties of Capitalism holds that occupational sex segregation will be less pronounced (1) in economic systems that rely more heavily on general education (as opposed to firm- or industry-specific training) and (2) in countries with better-developed systems of social and family protection. Underlying this relationship are optimizing career decisions made by rational individuals: Sex segregation persists because women (who expect to assume a disproportionate share of domestic obligations) are less inclined than men to invest in specific skills. Systems of family support can help level the playing field, promoting convergence in men’s and women’s investment decisions in some contexts.

An alternative argument, elaborated in Occupational Ghettos and elsewhere, is that the structure of the economy is the better predictor of men’s and women’s relative occupational distributions, specifically that postindustrial economic restructuring (i.e., service-sector expansion and economic rationalization) is associated with increased female labor force participation and the consolidation of pink-collar “occupational ghettos” (Charles 1992, 1998, 2003; Charles and Grusky 2004). I argue that some forms of sex segregation are more pronounced under postindustrialism because structural shifts in the economy occur in an ideological context in which care, service, and interpersonal interaction are widely understood to be female tasks. Although occupational training requirements and social policy provisions undoubtedly influence career choices of individual men and women, these institutional forms are themselves structured by cultural beliefs about what men and women are good at and how they behave.

Results suggest that the institutional features emphasized in Varieties of Capitalism account for a modest share of cross-national variability in sex segregation, but that a country’s level of postindustrial
economic development is a more powerful predictor. Findings support arguments linking economic rationalization and service sector expansion with increased concentration of women in routine nonmanual occupations.

In the following sections, I present in greater detail the arguments advanced by Estévez-Abe and colleagues concerning the determinants of variability in sex segregation, and I discuss pertinent evidence that can be garnered from available cross-national data. The alternative postindustrialism thesis and the corresponding empirical evidence will then be considered. The article concludes with a discussion of theoretical implications. I argue, in particular, that institutional characteristics of occupations, including their skill profiles and training requirements, reflect the current and anticipated gender of their incumbents as well as the functional requirements of the work. Economies and labor markets evolve in an ideological context that is infused with taken-for-granted assumptions about men’s and women’s “natural” capacities, interests, and behaviors.

Skill Regimes, Social Protections, and Occupational Sex Segregation

Interactions between individual-level behaviors and macro-level institutional features are underappreciated by neoclassical economists, who often take for granted the institutional context in which rational economic choices unfold. They are also underappreciated by structural sociologists, who typically downplay the supply-side factors that underlie choices among contextually viable options.

In chapter 4 of Varieties of Capitalism, political scientists Margarita Estévez-Abe, Torben Iversen, and David Soskice help fill a void in the comparative literature on gender stratification by considering how specific organizational forms and social policies influence individuals’ educational and occupational choices and thus generate cross-national variability in the structure of occupational sex segregation (see also Estévez-Abe 1999, 2003). The analyses in this chapter represent one application of a more general approach to understanding effects on individual behavior of variability in economic and political institutions (Hall and Soskice 2003).

Building on Gary Becker’s (1964) distinction between general and specific skills, Estévez-Abe and colleagues identify three types of labor market skills. Firm-specific skills are acquired through on-the-job training and are least portable. Industry-specific skills are recognized by employers within the corresponding trade and are acquired through apprenticeships and vocational schools. General skills, acquired through general education, are most portable, because they
hold value for employers across firms and industries. Although all skill types are found in all countries, national labor markets tend to emphasize certain types of skills over others. Anglo-Saxon labor markets strongly emphasize general skills, for example, whereas specific skills are more important in Germany. Based on these differential emphases, Estévez-Abe and co-workers classify countries according to their dominant “skill profiles” (2003, table 4.3, column 5).

If a rational worker is to invest time and money into acquiring firm- or industry-specific skills, certain institutional interventions are necessary to protect these investments. The authors identify three such protections: employment protection, which protects workers from layoff during economic downturns; unemployment protection, which protects workers from income reduction due to unemployment; and wage protection, which protects workers from market fluctuations in wage rates. In countries with weak worker protections, there is a strong incentive to invest in a general college education, which might be considered “the only effective insurance against an otherwise highly volatile and uncertain labor market” (Estévez-Abe et al. 2003, 172).

Estévez-Abe, Iverson, and Soskice posit that systems emphasizing the development of general skills tend to be “more gender neutral” (p. 160) and “perform better in terms of gender equality at work” (p. 179) than do those emphasizing specific skills. This prediction is based on the premise that women are less inclined than men to invest in specific skills because they anticipate disproportionate responsibility for childrearing and thus a discontinuous labor force career. The risks associated with specific skill investment can be reduced by institutional supports that render work and family roles more compatible. These include protection against dismissal (e.g., maternity, parental, and family leave policies), income maintenance during parental leaves, guarantees of reinstatement to the same job at the same wage, and affordable child care. If such protections are unavailable, women will be less likely than men to invest in firm- and industry-specific (i.e., nonportable) skills and more likely to pursue general skill strategies.

I use an archive of high-quality comparative data on gender distributions across sixty-four cross-nationally harmonized occupational categories to explore the possible influence of these institutional factors on women’s occupational distributions. The occupational data are from the early 1990s and were drawn from ten industrial market economies: Belgium, France, Germany, Italy, Portugal, Sweden, Switzerland, United Kingdom, United States, and Japan. Details on national surveys and the occupational classification used can be found in Occupational Ghettos, chapter 3 (Charles and Grusky 2004).
To assess the empirical validity of the arguments put forward in *Varieties of Capitalism*, levels and patterns of sex segregation are compared across countries with general and specific skill regimes, with strong and weak employment/unemployment protections, and with strong and weak child care and family leave provisions. I also examine, for an expanded set of sixteen countries, whether women’s investment in (more general) academic credentials, such as university and postgraduate degrees, is greater in the “general skills” economies. Countries are classified with respect to their social policy provisions and skills profiles based on criteria laid out by Estévez-Abe et al. (2003).

On the following pages, I present results of analyses aimed at assessing support for this *Varieties of Capitalism* account. The relative explanatory power of an alternative *Occupational Ghettos* account, which posits a segregating effect of postindustrial economic restructuring, will be evaluated subsequently.

**Is Sex Segregation Weaker in Countries with General Skill Profiles?**

In assessing empirical support for arguments positing less occupational sex segregation in general than specific skills markets, an obvious starting point is comparison of summary sex-segregation index scores. For this purpose, countries were grouped according to criteria set out by Estévez-Abe et al. (2003, table 4.3), with the United States and United Kingdom represented as the archetypical general skills regimes and the other eight countries assigned to the specific skills category.\(^5\)

Average within-group segregation-index scores were calculated from country scores reported by Charles and Grusky (2004, table 3.3). The widely used index of dissimilarity (D) gives the percentage of men (or women) that would have to be removed from the labor market to arrive at a proportional distribution of men and women across the sixty-four occupational categories considered here. The association index (A) measures the extent to which the female–male ratio varies across occupations.\(^6\) Average measures of horizontal and vertical sex segregation were calculated as well, with the horizontal parameter measuring the extent to which women are disproportionately found in the nonmanual (as opposed to manual) sector of the economy, and the vertical, nonmanual and vertical, manual parameters measuring the extent of hierarchical inequality within the nonmanual and manual sectors, respectively.\(^7\)

The first two rows in table 1 show mean values for each country group (i.e., general and specific skills countries) on the two summary segregation indices (A and D). Results are clearly inconsistent with the prediction that “economies with a large presence of companies...
with specific-skill strategies demonstrate high occupational segregation, while general skill systems are more gender neutral" (Estévez-Abe et al. 2003, 159-60; see also Esping-Anderson 1999). The overall amount of sex segregation in fact differs little between the general- and specific-skills regimes considered here.

However, this negative result must be considered in light of evidence that countries characterized by similar levels of sex segregation may differ substantially with respect to the underlying distributional patterns of women and men across occupations (e.g., Chang 2000; Charles 1992). Differences between general and specific skill regimes in their patterns of segregation are explored in two ways: first, by distinguishing horizontal from vertical forms of sex segregation, and second, by examining the occupation-specific contours of sex segregation.

The second set of figures in table 1 allows comparison of general and specific skills countries with respect to their mean levels of horizontal and vertical segregation, where horizontal sex segregation refers to gender divisions across the manual-nonmanual divide, and vertical sex segregation refers to status distinctions within the manual and nonmanual sectors. Previous research indicates that cross-national variability in patterns of sex segregation can be summarized quite well with respect to the three parameters shown in the second part of table 1 (Charles 2003; Charles and Grusky 2004).8

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Table 1. Occupational sex segregation by skill regime (group means)

<table>
<thead>
<tr>
<th></th>
<th>General Skill Systems</th>
<th>Specific Skill Systems</th>
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<tbody>
<tr>
<td>Sex segregation indexa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association (A)</td>
<td>5.34</td>
<td>5.27</td>
</tr>
<tr>
<td>Dissimilarity (D)</td>
<td>50.80</td>
<td>50.94</td>
</tr>
<tr>
<td>Dimensions of sex segregationb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal</td>
<td>3.33</td>
<td>2.96</td>
</tr>
<tr>
<td>Vertical, nonmanual</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>Vertical, manual</td>
<td>0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>Women’s share of the labor force</td>
<td>45.02</td>
<td>40.86</td>
</tr>
</tbody>
</table>

Notes: Classification of skill regimes is based on criteria in Estévez-Abe et al. (2003). General skills countries included here are United Kingdom and United States; specific-skills countries are Belgium, France, Germany, Italy, Portugal, Sweden, Switzerland, and Japan.

a Based on 64-category occupational classification. See Charles and Grusky (2004, table 3.3) for country-level index scores.
b Country scores are the absolute values of the corresponding sex-segregation parameter presented in Charles and Grusky (2004, table 4.2).
National Skills Regimes, Postindustrialism, and Sex Segregation

Although differences between the two country-groups are more evident when the vertical and horizontal dimensions of segregation are distinguished, these differences are not always in the predicted direction. Results suggest, in particular, that (1) horizontal sex segregation is more pronounced in the United States and United Kingdom than elsewhere, (2) vertical inequality within the nonmanual sector is stronger in the United States and United Kingdom, and (3) vertical inequality within the manual sector is weaker in these two countries. Although the first two findings are at odds with the arguments of Estévez-Abe et al. (2003, 179–80), the third is consistent with the claim that women will be better able to compete for skilled manufacturing and craft jobs where these are not allocated on the basis of occupation-specific credentials.

A better understanding of these relationships may be gained by comparing general and specific skills markets with respect to the gender composition of specific occupations, particularly occupations that vary cross-nationally in their training requirements. Occupations that differ most significantly in this regard include craft and manufacturing in the manual sector and management in the nonmanual sector. Arguments advanced in Varieties of Capitalism imply weaker female representation in these occupational categories in specific-skills regimes (see also Estévez-Abe 2003). Because specific credentialing requirements are imposed on most professional and associate professional workers in all industrial labor markets, variability in national skill regimes should be less consequential to the gender composition of these occupations.

Figure 1 shows occupational gender distributions broken down by dominant skill regime. The first panel shows gender distributions in the two general skills countries; the second panel shows distributions in the eight specific skills regimes. Nine major occupational categories are listed along the horizontal axis of this figure, ranked from high to low according to socioeconomic status. The first five occupations are nonmanual, and the last four are manual. The vertical axis indexes female representation, measured as the difference between the logged female-to-male ratio in the respective occupation and the average such ratio in the national labor market. Before estimating these macro-level parameters, the data were purged of cross-national differences in the relative sizes of the detailed occupations making up each major occupational category. The resultant segregation parameters, which are functions of odds ratios, have the distinct advantage of being margin-free, which is to say that they are insensitive to cross-national differences both in rates of female labor force participation and in the occupational structure of the economy. Values above zero indicate female overrepresentation (relative to the average
Greater gender integration is thus manifested in greater proximity of a country’s data points to the center “zero” line. Immediately apparent in figure 1 is the striking cross-national similarity in occupational gender distributions. In all countries considered...
here, women are overrepresented in the nonmanual sector and underrepresented in the manual sector (horizontal segregation). Moreover, women’s representation generally increases as one moves down the nonmanual hierarchy, with much higher values in the clerical, sales, and service categories than in the professions and management (vertical-nonmanual segregation). A similar pattern of vertical segregation is found in the manual sector, with the exception of the strongly male-dominated agricultural category found in some countries. Such cross-national similarities have been revealed in comparative analyses dating back to the 1980s (e.g., Anker 1998; Blackburn et al. 2000; Charles 1992; Nermo 2000; Roos 1985; Rubery et al. 1999; United Nations 2000).

Although general and specific skills countries exhibit strong similarities in the overall shape of their sex segregation profiles, some occupational parameters shown in figure 1 do support claims advanced by Estévez-Abe. Consistent with the argument that women are more willing to invest in male-typed jobs in general-skills labor markets (Estévez-Abe 2003, fig. 1; Estévez-Abe et al. 2003, 179–80), female presence in skilled manufacturing (i.e., “operative”) and managerial occupations is on average slightly higher in the Anglo-Saxon countries. Women’s representation in craft occupations does not differ much across these two country types, however, and female domination of clerical, sales, and service occupations is at least as pronounced in the two Anglo-Saxon countries as elsewhere.¹¹

Women’s stronger representation in managerial occupations in the United States and United Kingdom may be partly attributable to a higher level of female educational attainment in general-skills countries. Table 2, which compares women’s share of tertiary graduates

<table>
<thead>
<tr>
<th></th>
<th>General Skills Systems</th>
<th>Specific Skills Systems</th>
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<tbody>
<tr>
<td>Tertiary level¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First university degree (% female)</td>
<td>54.64</td>
<td>47.91</td>
</tr>
<tr>
<td>Postgraduate degree (% female)</td>
<td>48.02</td>
<td>37.11</td>
</tr>
</tbody>
</table>

Notes: Classification of skill regimes is based on criteria in Estévez-Abe et al. (2003). General skills countries included here are United Kingdom and United States; specific-skills countries are Belgium, France, Germany, Italy, Portugal, Sweden, Switzerland, and Japan.

¹¹Categories correspond to UNESCO levels 6 and 7, respectively. Country scores are taken from Bradley and Charles (2003, table 1).
between five general and eleven specific skills countries, indeed shows
stronger female representation in both bachelor’s and postgraduate
programs in the countries emphasizing acquisition of general skills. The
relationship between skills regimes and female educational investments
will be considered later.

Regarding women’s weaker representation in skilled manufacturing
in specific-skills markets, two mechanisms are emphasized in
*Varieties of Capitalism*: statistical discrimination by employers who
are unwilling to invest in development of firm-specific skills for
women, and utility-optimizing decisions that lead women to favor
investment in general skills (for example, university education) when
they expect discontinuous labor market participation.  

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In the following section, the associations between sex segregation
and national social policy provisions are examined.

**Is Sex Segregation Weaker in Countries with More Generous
Worker and Family Protections?**

Figures 2 and 3 assess the degree to which occupational distributions
can be distinguished according to national unemployment-protection
and national family policy regimes, respectively. Information on
unemployment protection is taken from table 4.2 of Estévez-Abe et al.
(2003). Family policy index scores, taken from table 4.3 of Meyers
et al. (1999), are used to assign countries to high (France, Belgium,
Sweden) and low/moderate (Germany, Italy, United States, United
Kingdom) categories.

Again, strong similarity across country groups is evident with
regard to the overall shape of the segregation profile. With regard to
the strength of sex segregation, figures 2 and 3 do suggest some dif-
ference between the strong and weak welfare states, due specifically
to the relatively flat Italian and Japanese profiles. As will be shown,
however, an explanatory model emphasizing cross-national variability
in postindustrial economic development provides a more empiri-
cally powerful framework for understanding observed patterns than
does the *Varieties of Capitalism* account.

**Postindustrialism, Gender Essentialism, and Occupational
Sex Segregation**

The preceding results suggest that cross-national differences in
men’s and women’s relative occupational distributions represent what
are in many senses variations on a generic theme. In the following two
sections, I discuss first the ideological forces that help support the
striking similarities among industrial market economies, and second,
the mechanisms by which postindustrial economic development may
have helped generate the counterintuitive patterns of cross-national variability in sex segregation that have been revealed here and in previous research.

The Generic Sex Segregation Profile

The patterns of sex segregation evident in figures 1–3 can be summarized quite well with regard to the three inequality components listed in table 1: segregation across the manual-nonmanual divide.
Charles

Vertical and horizontal segregation correspond, in turn, to two deeply rooted ideological principles: gender essentialism and male primacy, respectively. The first principle, gender essentialism, is based on widely shared beliefs that men and women are naturally and fundamentally different and that women are better suited than men for tasks involving service, nurturance, and social interaction.

(i.e., horizontal segregation), vertical segregation within the manual sector, and vertical segregation within the nonmanual sector.

Figure 3. Occupational sex segregation and family policy
Note: Information on family policy provisions is taken from table 4.3 of Meyers et al. (1999). On computation of country-level segregation terms, see note to Figure 1.
The second principle, male primacy, represents men’s traits as more valuable, and men as more status worthy and accordingly better suited for positions of authority and domination.\textsuperscript{15}

Although physical differences between the sexes (e.g., women’s reproductive role, men’s greater physical strength) may have contributed to the initial development of these beliefs,\textsuperscript{16} they have subsequently taken on lives of their own as cultural forces. Individuals differ in the extent to which they internalize gender stereotypes, but all members of society are cognizant of them. Norms of gender difference and male primacy therefore influence preferences, behaviors, self-evaluations, and choices of employers and workers of both sexes (Correll 2004). Gender essentialism is especially resilient, in part because it has proven to be so compatible with the liberal egalitarian ideals that have diffused under advanced industrialism (see Charles and Bradley 2002; Charles and Grusky 2004).

Horizontal segregation is reproduced in large part because nonmanual occupations embody characteristics (e.g., service orientation) that are stereotypically female, and manual occupations embody characteristics (e.g., strenuousness, physicality) that are stereotypically male. The linkage between gender essentialist ideology and horizontal segregation arises through a variety of intermediary processes, which include individual and statistical discrimination (Bielby and Baron 1986; Estévez-Abe et al. 2003; Fiske 1998; Reskin and Roos 1990; Reskin 2000), internalized preferences and self-evaluations (Bourdieu 2001; Chodorow 1978; Correll 2001; Hakim 2000; Parsons and Bales 1955), and expected sanctions for gender-inappropriate choices (Fenstermaker and West 2002; Goffman 1977; Kanter 1977).\textsuperscript{17}

Vertical segregation (i.e., men’s overrepresentation in the best-paid and most desirable occupations within the nonmanual and manual sectors) is supported by the cultural principle of male primacy. Despite the rise and diffusion of universalistic ideals, presumptions of male superiority and male dominance persist. Ideologies of male primacy are converted into vertical segregation through some of the same mechanisms generating horizontal segregation: discrimination, internalized preferences, biased self-evaluations, and expected sanctions. In addition, some women may self-select out of high-status positions because these are too demanding to be compatible with the domestic duties that they expect to assume (see also Becker 1985; Hakim 1996).

Once sex segregation has occurred, it is reproduced through social networks and a variety of seemingly gender-neutral institutional and organizational processes (Padavic and Reskin 2002; Tomaskovic-Devey and Skaggs 1999). Over time, occupations become strongly gender labeled.\textsuperscript{18} External pressures (e.g., labor shortages, changes in
task content, or regulatory frameworks) sometimes prompt shifts in an occupation’s gender composition (Fagan and Rubery 1996; Reskin and Roos 1990; Rubery 1988), but the profit motive is generally not strong enough to offset the effects of gender stereotypes.

Prevailing understandings of gender appropriate work also influence decisions about educational investments. Although some women may make optimizing investment decisions of the sort emphasized in Varieties of Capitalism, the simple availability of “gender-appropriate” vocational options (e.g., in nursing, early childhood education, or clerical fields) may be enough to divert some university-qualified women from elite forms of higher education (Bradley and Charles 2003, 263; Charles and Bradley, forthcoming). In other words, the larger gender gap in university education in “specific-skills” countries (table 2) may be partly attributable to the fact that highly differentiated educational systems provide more opportunities for translating early sex-typed career aspirations into sex-typed educational trajectories (Baker and Jones 1993; Buchmann and Charles 1995; Charles et al. 2001; Stockard and McGee 1990).

This account of sex segregation differs in three ways from that put forward by Estévez-Abe, Iverson, and Soskice. First, the mechanisms linking segregation to distinct masculine and feminine roles include (but are not limited to), statistical discrimination by employers and self-selection by employees. Second, this account allows for the possibility that statistical discrimination and self-selection, when they do occur, do not always represent efficient, utility-maximizing choices. Previous American research suggests (1) that much statistical discrimination occurs that cannot be construed as rational, efficient responses to sex differences in skills and turnover costs;¹⁹ and (b) that self-selection into female-dominated occupations very often does not represent utility-maximizing choices by women.²⁰ Third, this account suggests a bidirectional relationship between skill requirements and occupational sex segregation. Although credentialing requirements in effect at the time of an occupation’s emergence or growth may determine its initial sex composition (e.g., men may be better represented in occupations requiring firm- or industry-specific credentials), it is also true that occupations tend to grow and change in ways that bring their credentialing requirements into alignment with their sex composition (i.e., firm- or industry-specific credentialing requirements are more likely to be imposed in male-dominated occupations) and into alignment with the distribution of educational investments in a particular labor market. In this sense, institutional characteristics of occupations (including their skill profiles) must be understood as a product of their current and anticipated gender composition, and not solely the functional requirements of production.
In the following section, I return to the question of cross-national variability by considering how structural shifts in industrial economies may interact with the ideological tenets described above to produce variations on the common sex segregation profile.

Postindustrialism and Cross-National Variability in Sex Segregation

Previous research links postindustrial economic restructuring—in particular service-sector expansion and economic rationalization—to significant cross-national variation in levels and patterns of occupational sex segregation (Charles 1992, 1998, 2003; Charles and Grusky 2004). Because these structural transformations occur in societies characterized by deeply embedded stereotypes of gender difference and strong sexual divisions of labor in families, gender distinctions are likely to figure prominently in shaping workers’ and employers’ responses to changing labor market conditions.

Expansion of industries devoted to providing services rather than producing goods affects the structure of occupational sex segregation in two ways: (1) through changes in the industrial composition of occupations (i.e., the compositional effect), and (2) through workplace adaptations that may make routine nonmanual work more compatible with domestic responsibilities (i.e., the adaptive effect). These effects, elaborated in Occupational Ghettos (Charles and Grusky 2004), are briefly summarized next.

The compositional effect arises because market-based service activities in large welfare states often involve tasks that are functionally and symbolically similar to women’s traditional domestic activities (e.g., personal service industries), and because such market activities often demand emotional labor or interpersonal skills that are female-labeled (e.g., retail sales, banking, communication industries). Service-sector expansion contributes to horizontal segregation because shifts in industrial composition (and the resultant feminization of occupations) occur principally in the nonmanual sector of the economy.

The adaptive effect may arise in contexts where service sector expansion increases the demand for labor to the point that it can no longer be met by drawing on unmarried and childless women. In tight labor markets, employers seeking to fill positions in the rapidly expanding routine nonmanual sector sometimes begin to actively recruit wives and mothers whose primary commitment is to the domestic sphere role. The substantial domestic responsibilities of these women in some cases create pressures for adaptive changes in the structure and culture of the workplace, including provisions for part-time work, flexible scheduling, and reduced penalties for intermittency (but see Glass and Camarigg 1992 on the limits of such workplace adaptations).
Charles

“Economic rationalization,” another component of postindustrialism, refers to ongoing functional specialization, and the associated routinization of job tasks and personnel practices in some economic sectors (Braverman 1974; Bluestone et al. 1981; Thurow 1975; Tienda et al. 1987). One effect of economic rationalization is the feminization of lower nonmanual work, which in turn increases vertical segregation within that sector. On the other hand, rationalization also generates new opportunities for smaller numbers of elite, career-committed women in the managerial sector, which grows in response to problems with coordinating and supervising the additional lower-level workers.

Postindustrialization helps generate large “pink-collar” occupational ghettos by simultaneously drawing women into the nonmanual sector of the economy and increasingly segregating them into lower-status occupations within that sector. The increasing vertical segregation of the nonmanual sector occurs, in part, because growing demands for female-typed nonmanual labor are met by drawing on women who have a less substantial commitment to the labor force. Women who enter the formal labor market in less developed countries, by contrast, are more rigorously “culled” and are more likely to be highly educated and strongly committed to their market careers. As service jobs in the formal economy proliferate, the female labor force grows and comes to include a larger share of workers with extensive family responsibilities, less education, and more traditional gender-role ideals (Charles 1992; Davis 1984; Goldin 1990; Hakim 2000; McCall 2001). This influx of “less elite” women into the formal economy helps generate relatively high levels of vertical segregation in the nonmanual sector of postindustrial economies.

Are Postindustrial Labor Markets More Sex Segregated?

Evidence in support of the postindustrialism thesis can be found in Figure 4, which depicts sex segregation regimes of the same ten countries, this time broken down by level of postindustrial economic development. Postindustrialism is here measured as an average of standardized scores on two variables: the share of the labor force working in service industries, and the share of the labor force working as employees (as opposed to own-account workers). The first panel of figure 4 depicts segregation profiles of countries with negative (i.e., low) scores on this standardized index; the second panel shows countries with positive (i.e., high) postindustrialism scores. Mean segregation index scores, broken down by level of postindustrialism, are shown in table 3.

Variation in the contours of sex segregation is much more striking and consistent across this postindustrial dimension than across the
dimensions featured in Varieties of Capitalism (compare figure 4 with figures 1–3). The higher level of horizontal segregation in the more strongly postindustrial economies can be seen in the greater vertical distance between the manual and nonmanual data points in the second than in the first panel of figure 4. Also clearly evident is the stronger vertical segregation within the nonmanual sector of
Charles

Postindustrial economies. This vertical segregation reflects, in particular, women’s dominance of the relatively low-status clerical, sales, and service categories in these labor markets. Findings are consistent with the compositional and adaptive effects described in *Occupational Ghettos* (Charles and Grusky 2004).

The higher levels of sex segregation found in postindustrial service societies—including Sweden, a country widely admired for its gender-equalitarian culture and policies—can be attributed to (1) shifts in the industrial composition of the economy toward occupations with functional or symbolic links to women’s traditional roles; (2) adaptation of some growing sales, service, and clerical occupations to attract women with substantial family responsibilities; and (3) expansion and increasing heterogeneity of the female labor force. These effects offset, and in some cases exceed, the integrative effects of modern gender-equalitarian cultural principles (see Charles 1992, 2003).

This account is also useful for understanding trends in sex segregation, specifically the seeming disjunction between slow, uneven declines in overall levels of sex segregation and the dramatic improvements over the past three decades in many other typical indicators of women’s status (e.g., educational access, labor-market participation, extension of civil and political rights). Again, this pattern can be
attributed to the distinct dynamics underlying vertical and horizontal inequalities. Vertical sex segregation tends to decline in modern labor markets and educational institutions as overt discriminatory practices are gradually delegitimated. Horizontal segregation, on the other hand, persists (and sometimes grows) as postindustrial structural shifts interact with deeply rooted ideologies of gender difference.

Theoretical Implications

In Varieties of Capitalism, as in the neoclassical economic literature, occupational sex segregation is represented as the outcome of utility-optimizing choices by job seekers (who aim to balance work and family demands, maximize lifetime earnings, and minimize risks associated with unemployment) and employers (who engage in statistical discrimination to avoid investing in training of individuals with high expected turnover rates).

Where the Varieties of Capitalism account differs from the neoclassical economic one is in its careful attention to cross-national variability in the organization of labor markets and educational systems. Of greatest interest in the present context is the argument that international differences in skill regimes and social policy provisions contribute to variability in women’s status by changing the relative costs and benefits associated with specific educational investments and recruitment practices. Although results presented here do not support the claim that general skill systems are more gender-neutral, overall, they do indicate that specific forms of gender inequality are less pronounced in general-skills systems (see also Estévez-Abe 2003). Specifically, women are better represented in skilled manufacturing and managerial occupations in such systems and their representation among university graduates (at both the bachelor’s and postgraduate levels) is considerably stronger.

A much more powerful force generating international variability in occupational gender distributions is the structure of the economy, however. Findings presented here and elsewhere suggest that postindustrial economic restructuring interacts with deeply rooted cultural notions of femininity and masculinity to intensify some forms of sex segregation. Among other things, this occurs through the symbolic association of women with tasks central to many rapidly growing service sector occupations and through workplace adaptations (e.g., provisions for part-time work) aimed at attracting women with extensive domestic obligations into the expanding lower-nonmanual sector of the economy.

To understand sex segregation, scholars must consider how gender ideologies and preexisting systems of gender relations help structure labor markets and educational systems. Men and women may endeavor
to maximize their personal utility in making career choices, but this maximization often occurs within a restricted field of perceived options—one that may include only those occupations or degree programs deemed gender-appropriate by themselves, employers, and significant others. Differences in occupational credentialing requirements, moreover, cannot be attributed to the functional exigencies of production alone; the actual or anticipated gender of the occupations’ incumbents undoubtedly plays a role as well.

Likewise, the phenomenon of statistical discrimination may be viewed through a cultural lens. Although much sex segregation can be attributed to efforts by employers to reduce costs by favoring men (or women) for certain jobs, available evidence suggests that such discrimination is often based on cultural beliefs about what men and women are good at or how men and women behave, rather than rational or efficient responses to measurable gender differences.

Results of this analysis underscore the importance of distinguishing among the multiple dimensions of women’s economic status in formulating causal accounts. Although welfare state provisions have been shown to influence some dimensions of women’s economic status, including female labor force participation and wage rates (Estévez-Abe 2003; Orloff 1993; Rubery 1988; Sainsbury 1996; Sjöberg 2004), they do not appear to be central determinants of variability in occupational sex segregation.

Attempts to develop causal models about the forces underlying cross-national or historical variability in “gender equality”—or even in overall levels of sex segregation—are doomed to failure because such variability as obtains is not manifested in uniform, across-the-board improvement or deterioration in women’s overall social position (i.e., equalization of men’s and women’s pay, working conditions, labor force participation rates, household labor, and occupational distributions). Rather, there is growing evidence that modernization is associated with erosion of some forms of gender inequality, and persistence—even exacerbation—of others. Unidimensional accounts of women’s status provide no framework for understanding the complex patterns of gender stratification that result from interactions among rational individual choices, essentialist gender ideologies, and highly variable institutional arrangements.

NOTES

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1. Countries’ dominant skill profiles are assigned based largely on the nature and extent of vocational and university training. By this account,
investment in university degrees is stronger and investment in vocational training is weaker in countries with “general skills” profiles.

2. Specifically, the argument is (a) that workers will only invest in firm-specific skills if employment protections are in place that make the chances of job loss very low; (b) that workers will only invest in industry-specific skills if unemployment protection is in place that protects them against the loss of income associated with unemployment; and (c) that workers’ least risky strategy when neither of these protections is available is to invest in general skills that are portable across industries and firms.

3. These arguments suggest a self-reinforcing dynamic between protective labor policies (i.e., employment protection, unemployment protection) and skill formation. In systems where protections are weak, individuals have a weaker incentive to invest in specific skills, and employers in turn have an incentive to use technologies that rely on general rather than specific skills.

4. Estévez-Abe et al. furthermore suggest that women rationally choose occupations in which there are few men because women’s skill investments are not as well protected as men’s. Occupational segregation is treated largely as a by-product of women’s actual or anticipated career interruptions (see also Becker 1991; Mincer and Polachek 1974; Polachek 1981). The existence of a causal relationship between labor force discontinuity and occupational sex segregation has long been disputed by sociologists (e.g., England 1982; Okamoto and England 1999; Roos 1985).

5. Although Portugal is not included in table 4.3, its classification as a specific skills country is based on an application of the relevant criteria.

6. A has the important advantage of being compositionally invariant (i.e., its value is not influenced by cross-national differences in the relative sizes of occupations (as is the value of D) or in levels of female labor force participation (as are other indices)). On the relative merits of these indices, see Charles and Grusky (2004).

7. Country scores are the absolute values of the corresponding sex-segregation parameters presented in Charles and Grusky (2004, table 4.2).

8. See also Charles and Bradley (2002) on vertical and horizontal sex segregation within systems of higher education.


10. On this multilevel specification, see Charles and Grusky (2004, chap. 2).

11. The lower overall level of vertical segregation found in the manual sectors of the general skills countries (table 1) are largely attributable to the extreme underrepresentation of British and American women in (low-status) agricultural jobs. The higher level of horizontal segregation in these two countries can be seen in the greater vertical distance between the manual and nonmanual data points in the first than in the second panel of figure 1. The higher level of vertical segregation in the nonmanual sector is evident in the slightly steeper upward slope of the nonmanual lines in the first panel.

12. This argument would seem to imply stronger female representation in craft occupations in general than in specific skills markets. One possible explanation for the absence of such an effect is that licensing requirements and informal apprenticeship arrangements discourage female entry into skilled crafts occupations even in general skills markets.
13. Data are missing for Portugal (figures 2 and 3), Switzerland (figure 3), and Japan (figure 3). I do not consider the effect of employment protection here, because categorization on this variable is (with the possible exception of Switzerland) coterminous with the skills profile distinctions (see Estévez-Abe 2003, figure 4.2). It follows, then, that the described effects of national skill profiles may also reflect cross-national differences in levels of employment protection.


15. On ideologies of gender difference, see Crompton (2001); Elvin-Nowak and Thomsson (2001); Epstein (1999); Gerson (2002); Lorber (1993); Milkman and Townsley (1994). Cultural understandings of men’s and women’s “essential” qualities are to some extent situationally contingent, and they may vary across social groups defined by race, ethnicity, sexual orientation, and other categories (Baca Zinn and Thornton Dill 1996; Flax 1990). The present discussion focuses on dominant symbolic meanings of masculinity and femininity that appear consistently across most social groups. On ideologies of male primacy, see Bourdieu (2001); Deaux and Kite (1987); Ridgeway (1997, forthcoming); Walby (1986).

16. See Chafetz (1988); Collins et al. (1993); Firestone (1970); Huber (1999) on the historical evolution of these cultural tenets.

17. These mechanisms are elaborated in Occupational Ghettos (Charles and Grusky 2004).

18. Secretaries, for instance, are today widely presumed to be female; plumbers are widely presumed to be male.

19. In their study of sex segregation in California firms, Bielby and Baron (1986) found that employers exclude women from some jobs and men from others based on perceptions of gender differences in job-related traits. However, women were excluded across the board not for costly to measure factors like turnover costs, but were excluded from jobs in which simple tests of qualification could be devised at the individual level.

20. Some sociological research suggests, for instance, that even discontinuously employed women would maximize lifetime wages by choosing male-dominated occupations, and that intermittent employment and plans for intermittent employment are unrelated to women’s likelihood of working in a female-dominated occupation (Desai and Waite 1991; England 1982; Okamoto and England 1999).

21. As the service sector grows, the industrial mix of some occupations becomes increasingly service-based, and female representation therefore increases in such occupations (Chang 2000; Cotter et al. 2001; Hartmann 1976; Oppenheimer 1970; Semyonov and Scott 1983).

22. See, for example, Kuhn and Bluestone (1987); Reskin and Roos (1990); Ruggie (1984); and Tilly and Scott (1978).

23. These processes are revealed, for example, in the replacement of proprietor-run specialty stores and service establishments (e.g., restaurants, laundries, hotels) with large discount stores and chains bureaucracies. As independent entrepreneurs disappear, clerical and sales jobs are typically
routinized and deskilled, and women are actively recruited to fill them (Davies 1975; Reskin and Roos 1990; Tilly and Scott 1978).

24. Of course, the labor force in these countries also includes substantial segments of lower-class women who are forced into the market due to severe financial pressures.

25. Because modern gender-egalitarian mandates undermine principles of male primacy (but not gender essentialism), vertical inequality tends to be less pronounced in gender-egalitarian cultural contexts (Charles and Bradley 2002; Charles 2003). These integrative cultural effects tend to be concentrated in high-status *nonmanual* occupations (i.e., professions and management), owing to the more meritocratic cultures and recruitment practices in this sector and the stronger material and social incentives for elite women to press for access to these positions (Charles 1998).

REFERENCES


Charles


