

Gender and nonstandard work hours in 12 European countries

Labor force surveys conducted in several European countries in 2005 indicate high levels of nonstandard work hours, varying by gender; by contrast, nonstandard work hours for both men and women vary little by whether they have or do not have children

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Across the continent of Europe, countries have adopted or advocated measures aimed at reducing the workweek for employees and making a shorter workweek more feasible. The reasons have been many and have included combating unemployment by spreading available work, alleviating various health and safety concerns, attaining a balance between work and family obligations, and, of late in several countries, encouraging gender equality, with an eye toward achieving a more symmetrical distribution of paid and unpaid work between men and women. In the scholarly literature on this topic, much attention has been paid to the number of hours Europeans work and to gender gaps in employment, but remarkably little consideration has been given to *when* employees' hours are worked and even less to gender gaps in the *timing* of work. Accordingly, across Europe, the question of which hours employees work and what factors enter into decisions regarding a person's working those hours demands increased attention.

Consequences of nonstandard hours

Why is nonstandard-hour employment important? An overarching concern is that nonstandard work schedules may not be in the

interest of most employees. Specifically, workers' health and safety, family and marital life, and children's well-being may be affected.

Health and safety concerns have long been associated with atypical schedules, and many scholars have focused their attention on this issue. Ample research from Europe and the United States has found that working nonstandard hours—especially night work and rotating shifts—is associated with greater health risks due to changes to an individual's circadian rhythms. These changes are linked to such biological functions as body temperature, hormone levels, and sleep. As a consequence, late-hour workers are subject to higher risks of gastrointestinal disorders, cardiovascular disease, breast cancer, miscarriage, preterm birth, and low birth weight of their newborns.¹ Chronic sleep deprivation and the resulting fatigue and stress can affect job productivity² and the incidence of workplace accidents.³

The social consequences of nonstandard work schedules are also troublesome, especially for families. Working atypical hours⁴ and weekends changes the temporal structure of family life, constraining the time that family members spend with one another and threatening the quality and stability of relationships, especially when

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there are children.⁵ For example, married fathers in the United States who work fixed night shifts are 6 times more likely than their counterparts who work days to face marital dissolution, after other factors are controlled for; for married mothers, fixed nights increase the odds by a factor of 3.⁶

In addition, there is worrisome evidence that children whose parents work nonstandard shifts fare more poorly than other children. One longitudinal study found that children whose mothers had ever worked evenings, nights, or rotating shifts in the first 3 years of the children's lives performed significantly more poorly on tests of cognitive development at age 2 and expressive language at age 3.⁷ The researcher concluded that these negative effects might be due in part to the type of care the child received: children whose parents work nonstandard schedules are less likely to be cared for in formal childcare settings that provide important school-readiness experiences.

The possible effects of parents' schedules are not limited to preschool children: parents who work nonstandard hours, particularly those working evenings and weekends, have less time to spend with their school-aged children,⁸ and this may translate into less supervision, less help with homework, and fewer positive inputs. Examining the effects of nonstandard work hours on older children, Jody Heymann found that, after other family and parental characteristics are controlled for, each hour that a parent works between 6 p.m. and 9 p.m. corresponds to a 16-percent increase in the likelihood that his or her children score low in mathematics at school.⁹ Further, children of parents who work nights are nearly 3 times as likely to get suspended from school.¹⁰ Yet another study examined 10- to 14-year-olds and found that parental work schedules have complex links with adolescents' home life and socioemotional outcomes; for example, levels of depression reported by adolescents are higher when mothers work evenings and when fathers work irregular hours.¹¹

In contrast to the preceding findings, there may be positive aspects of atypical work hours. For example, job opportunities may increase with the expansion of the workday and workweek, drawing workers into employment who might otherwise refrain from performing paid work, and in some countries the existence of pay premiums may make late and weekend work especially desirable. Further, among parents, women's employment at nonstandard times may reflect—or even increase—men's willingness to assume caregiving responsibilities while their female partners are at the workplace. Finally, there are undoubtedly some workers, both men and women, who, because of competing commitments (such as attending school) or

personal preferences (say, being a “night owl”), voluntarily choose late-hour or weekend employment over a standard daytime weekday-only schedule.

Research questions

In response to the preceding concerns about nonstandard work hours (and even potential benefits thereof), this article assesses a number of aspects of nonstandard work in 12 European countries: the prevalence of nonstandard work schedules across those countries; the distribution of nonstandard schedules within each country; the gender differences, if any, in nonstandard schedules; and the effect, if any, that having children has on nonstandard schedules. Cross-country variation in work schedule behavior clearly reflects multiple factors that themselves vary cross-nationally: largely private factors relating to employee preferences, demographic factors such as the composition of a nation's population and workforce, and societal consumption patterns. National-level policies and collective agreements surely matter as well, but may be less influential than independently operating consumer and employer demand factors in determining prevalence levels.

The article focuses largely on descriptive questions about work schedule patterns across countries. Three interrelated questions are asked about late-hour work, shift work, and weekend employment in Europe, with a focus on 12 countries. The first question is, “How prevalent is nonstandard employment in these European countries, and how does it vary across those countries?”

The second question is, “How, and to what extent, does gender play a role in nonstandard work schedules?” Is nonstandard-hour work, like part-time work, disproportionately women's work, or, instead, are employed women underrepresented on nonstandard shifts? The literature, both European and American, on gender gaps in employment is large and focuses mostly on differences between men and women in employment rates, wages, occupations, industries, and hours worked.¹² It is well established that women's work-hour patterns are distinct from men's in all industrialized countries. Throughout the industrialized world, employed women are much more likely than men to work part time (fewer than 30 or 35 hours per week), and even among full-time employees, women average a shorter workweek than do their male counterparts. However, relatively little is known about gender differences in *which hours* people work—that is, how men and women differ in the extent to which they usually work evenings, nights, rotating shifts, and weekends.

An earlier *Review* article reported that many European countries experienced a rise in weekend work—particularly Sunday employment—during the 1992–2001 period.¹³ Moreover, women’s share of weekend employment differs among countries, and there are differences by sector. In all 16 European countries studied in that article, women were seen to be more concentrated in the service sector than in the industrial sector, and the service sector was found to disproportionately draw women into weekend work, while the industrial sector disproportionately drew men into weekend work.

The analysis that follows extends the study of the role of gender in work scheduling in the 2005 article to consider evening and night work, as well as rotating shifts. In the process, weekend employment is revisited, with a focus on the year 2005. The key issue is whether employed women are as likely as employed men to work these schedules and thus to experience both their disadvantages and their benefits.

The third question is, “Does having children matter?” Harriet Presser estimates that, in the United States, 1 in 5 employed persons works mostly at nonstandard times (during the evenings, at night, or on rotating shifts), and 1 in 3 works Saturdays or Sundays (or both).¹⁴ Despite these high levels, there is little national discourse on this issue.¹⁵ Interestingly, in the United States, parental status plays no significant role in determining who works at nonstandard times, but because levels of nonstandard work hours are generally high for both men and women, the prevalence of nonstandard work schedules among dual-earner parents is high: about 31 percent of couples with a child under age 5 have at least one spouse who works nonstandard hours, and the figure rises to 60 percent if one includes weekends.¹⁶ Thus, childcare issues are highly relevant to working at nonstandard times. Indeed, when mothers are asked directly, more than one-third (35 percent) report that childcare is their primary reason for working nonstandard hours, a finding which suggests that they can rely on informal care from family and friends at such times. Another 9 percent indicated care for another family member as their primary reason.¹⁷

The 35-percent figure may be even higher if the majority of women who indicate “job-related reasons” as the primary reason for working nonstandard hours have elected to work in occupations that allow or require them to work during hours when other family members are available for childcare. In other words, despite the limited availability of childcare arrangements at nonstandard times, many American parents work at those times. Although it is not possible to duplicate this U.S. research with the European

data presented here, Presser’s U.S. results point up the utility of asking a parallel question with regard to Europe: are employed parents in European countries, who would also have to rely primarily on informal childcare arrangements to work nonstandard schedules, more or less likely to do so than nonparents?

The next section of the article presents the data, methods, and measures used to answer the questions posed in the preceding paragraphs. The three subsequent sections present the results of the analysis: the first reports findings on the prevalence of nonstandard employment across countries, the second addresses the question “Does gender matter?” and the third reports findings on differences between parents and nonparents. The final section presents some conclusions garnered from the analysis carried out in the prior sections.

Data, methods, and measures

Data and methods. This study is based on data from the 2005 labor force surveys from 12 European countries. The data were obtained from Eurostat, the statistical office of the European Union. The study comprises 4 Nordic countries (Denmark, Finland, Norway, and Sweden); 2 English-speaking countries (Ireland and the United Kingdom); and 6 continental European countries (Austria, Belgium, France, Italy, Luxembourg, and the Netherlands).¹⁸ These are all of the countries for which comparable 2005 labor force survey data on work schedules could be obtained from Eurostat.

The labor force survey samples are generally large: the number of sampled units in the 12 countries examined ranges from about 8,500 in Luxembourg to approximately 75,000 in Italy and France.¹⁹ Reduced samples were drawn that restricted the study to those aged 25 to 64 years, to wage and salary earners, and to those working in nonagricultural occupations and industries.²⁰

Eurostat limits the availability of the individual records for the 12 countries examined to certain qualifying institutions through a cumbersome process. For this analysis, Eurostat made available detailed “cross-classification tables,” which report clusters of individuals with identical sets of characteristics, all expressed as categorical data. Weights corresponding to each cluster are provided and capture both the original survey weights (to correct for sampling, nonresponse, and other types of bias) and weights that account for how many identical observations appear in the raw data. When the weights are applied, the data yield population estimates.

All descriptive results reported in all charts in this article

are weighted to provide national estimates. The multivariate analyses reported in Tables 1–4 are the authors', carried out with the use of logistic regressions. The logistic regression models were estimated with the aforementioned clustered data, unweighted, to allow for the most accurate standard errors possible. All of the charts present the authors' calculations based on the European labor force surveys.

Work schedule measures. The study focuses on two types of workers: *nonday* workers, who work evenings, nights, or rotating shifts (or any combination of these); and *weekend* workers, who work Saturdays or Sundays (or both). Each group was constructed in accordance with a set of rules established for this study.

Separate questions were asked in the surveys as to whether respondents worked evenings, nights, shifts, Saturdays, and Sundays. For most countries examined, the response categories for these five variables were “usually,” “sometimes,” “never,” and “no answer.” Some countries combined “sometimes” and “never” into one category. The analysis that follows focuses on a usually/not usually dichotomy for all variables, because the usual work schedule behaviors of those employed are the items of interest. (Those with “no answer” were relatively few and treated as missing cases.)

The distinction between evening and night work varies across countries. The variability is within the range of 6 p.m. to midnight for evening work and within the range of 10 p.m. to 6 a.m. for night work.²¹ Because of definitional differences and the focus herein on nonstandard hours regardless of whether they are evening or night hours, both types of late schedules are combined.

In addition to evening and night workers (or both), shift workers are included in the broad category of nonday workers. Shift workers are defined here as those whose work schedules regularly rotate to include at least two different segments of the 24-hour clock, such as from day to evening, from day to night, from evening to night, or a shift involving all three segments. In three countries—Denmark, the United Kingdom, and Italy—individuals are asked whether or not they work in organizations that have a shift system, regardless of whether the individual works a rotating shift. For these countries, for the purposes of this study, a person was designated as working a rotating shift if the person answered yes to the organizational question *and* also indicated that he or she worked either sometimes or usually in the evenings or nights (or both). The same rule was applied to the other countries in which the person was asked about his or her own work schedule,

rather than that of the organization: if the person worked a shift *and* worked either sometimes or usually in the evenings or nights (or both), he or she was coded as a shift worker. This rule excludes from the category of shift workers those who work two different daytime schedules, but never in the evening or night.²² Such a schedule would apply particularly to part-timers who vary their daytime hours.

In sum, the definition of nonday work presented here includes those who usually work evenings or nights (or both) or who work a rotating shift that at least sometimes includes evenings or nights (or both).²³ The focus in this study is on a single year (2005), forgoing an analysis of trends, a decision necessitated by changes over the years in the way that nonday employment is measured in some countries.

Weekend employment is measured more precisely: those who work weekends usually work Saturdays or usually work Sundays (or both). For both weekend and nonday employment, note that neither the number of weekend hours worked nor the number of nonday hours worked is known (although the total number of weekly hours worked, regardless of schedule, is known). As previously noted, an earlier article examined the trend in weekend employment in many European countries for the years 1992–2001, distinguishing Saturday from Sunday work.²⁴ Because the present analysis focuses on the broader issue of nonstandard work schedules in 2005, including nonday employment, Saturday work and Sunday work are combined in the analysis that follows.

Prevalence of nonday and weekend employment

This section and the next two present cross-national results in the form of a regional breakdown that is widely accepted in the comparative study of welfare states. We use this country typology because a large body of comparative research has established that these groupings are relatively homogeneous with regard to both social policy provisions and employment outcomes, especially women's employment rates. The Nordic countries, for example, tend to have high rates of women's employment, sizable service economies, and extensive redistributive social welfare policies. The continental countries typically have lower rates of women's employment, smaller service sectors, and less redistributive social policies. The English-speaking countries generally have moderate rates of women's employment and much more market-oriented regulatory and social welfare systems.²⁵ This typology, a starting point for the empirical analysis that follows, helps organize the

findings and makes it easier to place them in the context of the larger comparative literature.

The discussion begins by reporting the prevalence of nonday employment. The top panel of chart 1 (page 88) shows the percentage of nonagricultural wage and salary earners aged 25 to 64 years who usually work nondays—that is, evenings, nights, or rotating shifts—in the 12 countries constituting the universe for analysis. The chart reveals considerable variation across countries, with the prevalence of nonday employment ranging from as low as 14.5 percent in Luxembourg to twice that level, or 29.4 percent, in the United Kingdom. The results do indicate some homogeneity across the three clusters of countries. For example, in each of the four Nordic countries, about one-fourth of the employed work nondays. The continental countries also exhibit a degree of homogeneity: the 5 countries with the *lowest* rates of nonday work among all 12 countries examined are continental countries with about one-fifth or fewer employees working nondays. The Netherlands is a marked exception, reporting the second-highest level overall (27.4 percent).²⁶

What about weekend employment? As the middle panel of chart 1 shows, there is far more cross-national variation in the percentage of employees working Saturday or Sunday (or both) than there is in the percentage working nondays, and the country clusters are less cohesive. For example, the percentage working weekends ranges from a low of 10.4 percent in Sweden to a high of 33.8 percent in Italy.²⁷ Overall, the continental countries are registering the highest levels of weekend employment; the four countries in which weekend employment is most prevalent (the Netherlands, Austria, Italy, and France) are in this cluster.

Although Saturday work and Sunday work are combined for this analysis, in most of the six continental countries Saturday employment is about twice as prevalent as Sunday employment. Accordingly, it is the high levels of Saturday employment that are generating the high levels of weekend employment in a number of the continental countries, in contrast to the other two regions. (Separate Saturday and Sunday figures are not shown.²⁸) Whereas Italy has the highest level of Saturday employment, it is relatively low in Sunday employment, yet has the highest level of weekend employment when both days are combined; in contrast, the Netherlands, for example, has a relatively high level of Sunday employment, but is low in Saturday employment, compared with most other countries, and shows an overall moderate level of weekend employment when both days are combined.

Furthermore, some employees usually work late or work

rotating hours and weekends. The bottom panel of chart 1 shows that a substantial minority of employees in the six continental countries have such schedules. The range is from 6.4 percent in Belgium to as high as 16.9 percent in the Netherlands, with considerable variation within as well as across regions.

Clearly, the prevalence of nonstandard-hour work varies across Europe, as well as within these established welfare-state clusters. Thus, at least some of the factors that shape nonstandard work hours in those countries—both micro-level factors and country-level institutional factors—vary by country.

Does gender matter?

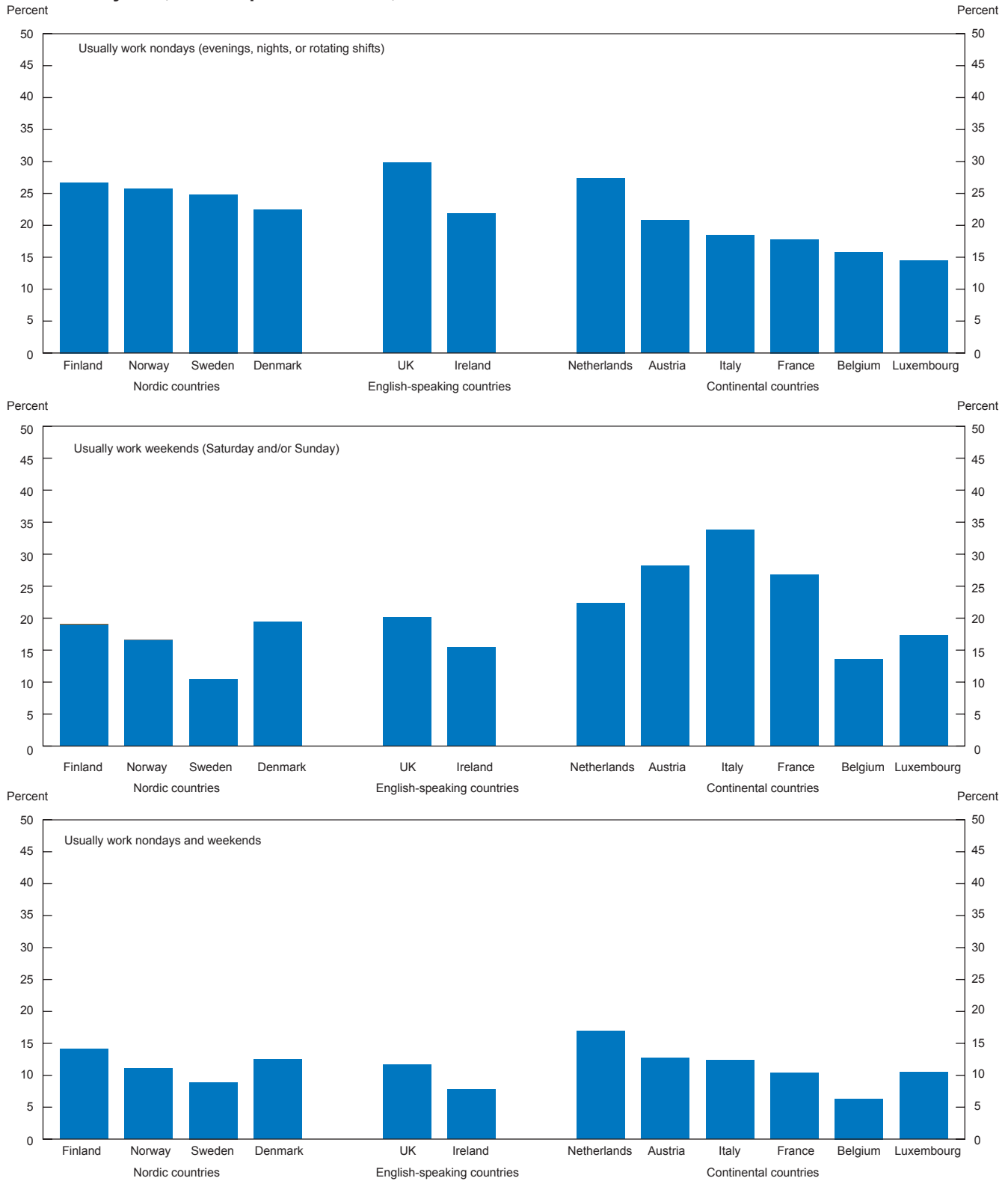
As noted earlier, all labor markets—including those throughout Europe—are gender differentiated. On average, women's engagement in paid work differs from men's in all aspects, including likelihood of employment, wages, occupations, industries, and total hours worked. Yet, very little is known about gender differences relating to when workers work their contracted hours.

On the one hand, some factors suggest that women workers will be overrepresented in nonstandard schedules. For example, across the 12 countries examined, women are more likely to be employed in the service sector rather than in the industrial sector, and in most of the countries nonday and weekend employment is higher in the service sector. (Results are not shown.) It is also possible that, in some cases, these nonstandard schedules are considered unattractive; thus, they may fall to women because women often lack men's bargaining power in the workplace.

On the other hand, women's total hours, on average, are less than men's, perhaps reducing the overflow of their worktime into the evening, night, or weekend. Women also are more likely than men to assume child-rearing and other family responsibilities that may constrain nonday employment. In addition, cultural factors may depress women's work, especially at night; in fact, some of these countries had bans on women's night work as recently as the 1990s. (In 1976, the European Union outlawed bans on women's night work, but some countries, including Luxembourg, continued to ban night work for women into the 1990s.) In addition, in cases where nonstandard worktimes bring extra pay, women may find it harder than men to have access to such schedules.

The interplay between gender and work scheduling is complex. The remainder of this section approaches this issue from a descriptive perspective, asking, "What, in fact, are the differences in nonstandard work schedules by gen-

Chart 1. Prevalence of nonday work schedules: nonagricultural wage and salary earners aged 25–64 years, 12 European countries, 2005



der?” “Do the within-country gender differentials shape up differently between nonday work and weekend work?” “Is weekend work considered more benign than nonday employment for family life—as has been shown for the United States²⁹—and thus, are employed women more likely to be ‘included’ in weekend work, relative to their engagement in evening and night schedules?”

Nonday employment: bivariate analyses. The analysis by gender begins with nonday work. Chart 2 shows that, in most of the countries examined, the overwhelming pattern is that men are more likely to work nonday hours than are women. The exceptions are three of the Nordic countries: Finland, Sweden (in both of which countries there are no significant differences by gender), and Norway (where women are more likely than men to work nondays).³⁰ Interestingly, these are countries with large service sectors; they are also countries in which public policies have long emphasized gender equality in the labor market, reflected in men’s and women’s rates of employment.

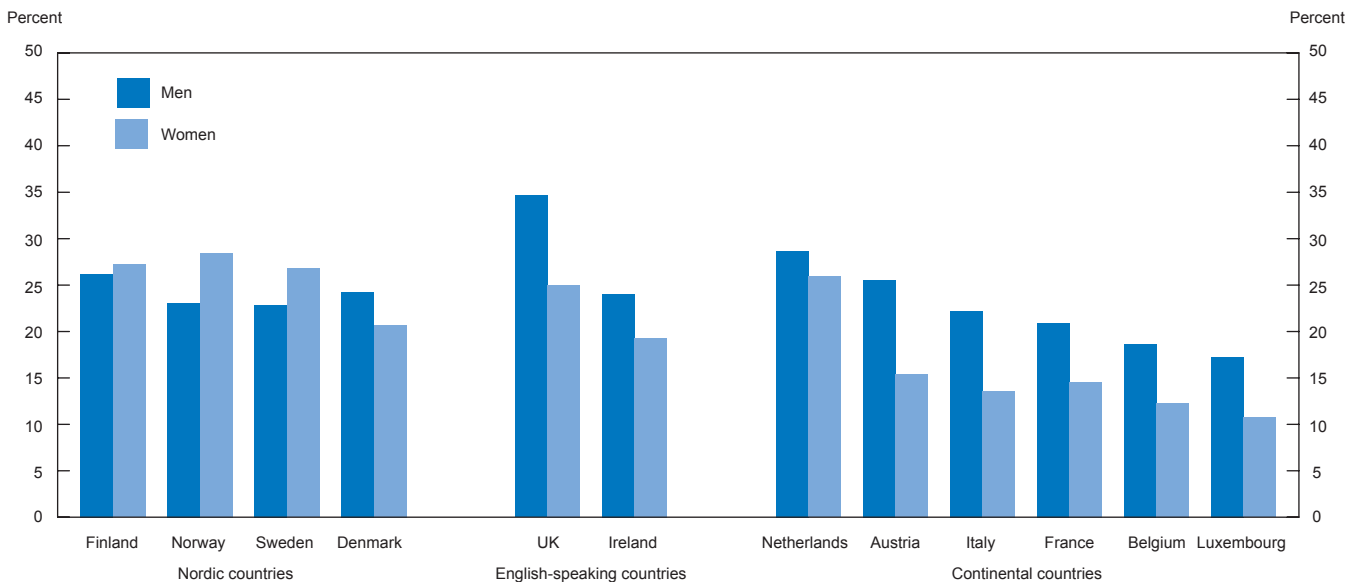
Among the countries in which male employees are more likely than their female counterparts to work nondays, the largest gender gaps are seen in the United Kingdom—the country with the highest percentage of nonday work overall—and in Austria. In both countries, the likelihood that employed men work nonday hours is about 10 percentage points higher than among women workers. In other coun-

tries, employed men also are more likely to work nondays than are employed women, but by a smaller percentage, with a very small (but significant) margin in the Netherlands.

*Economic sector.*³¹ What happens when the analysis controls for the sector of employment? As previously noted, in all of the countries studied, employed women are more likely than their male counterparts to be employed in the service sector; moreover, the countries vary in the proportion of their labor force that is engaged in services (results not shown). Such differences can be controlled for by an examination of the extent to which gender differences persist *within* economic sectors, service or industrial. In particular, considering only service employment, one can ask, “Do the relatively high levels of women engaged in nonday work in the Nordic countries disappear?”

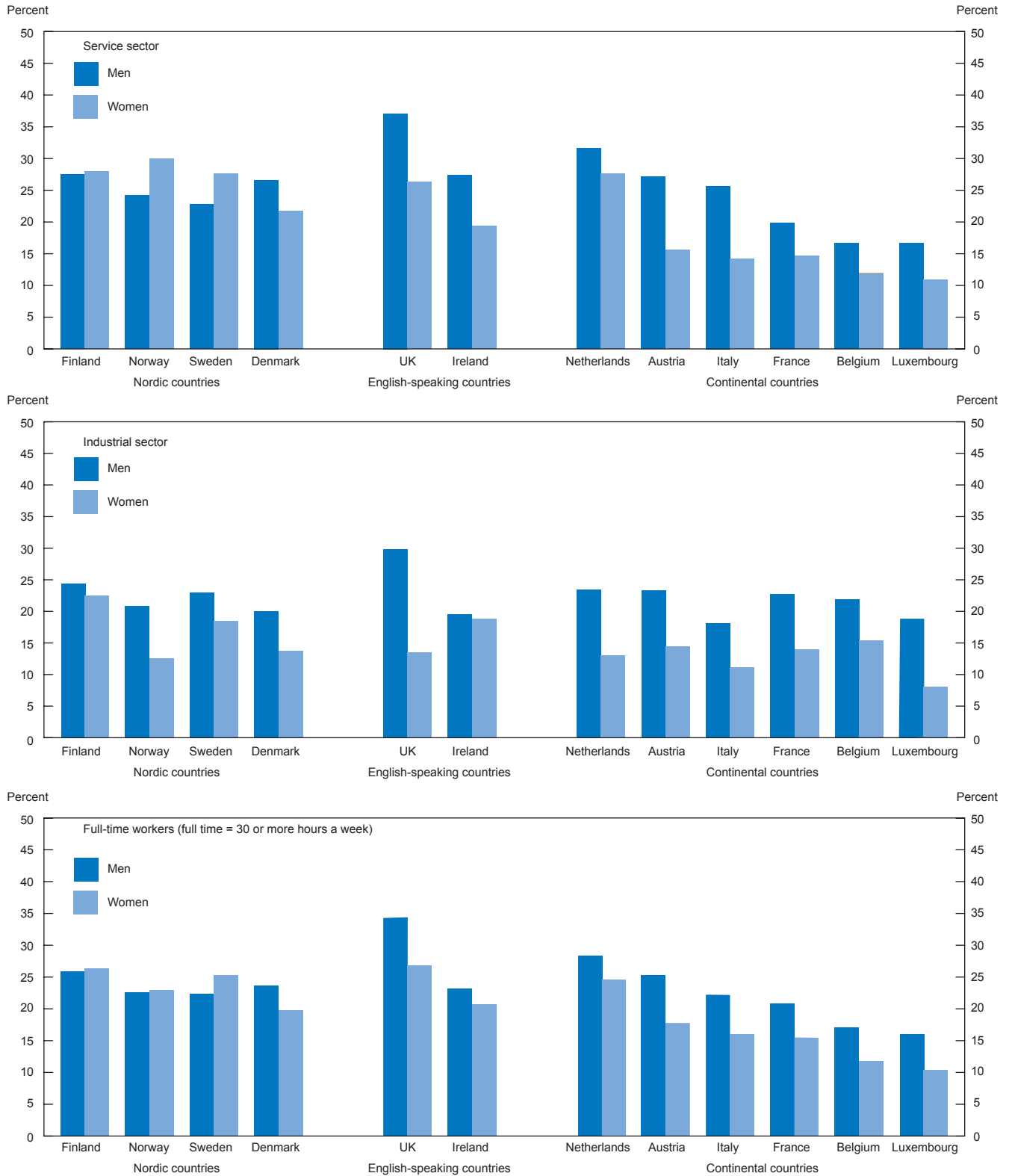
The gender differences in nonday employment for service-sector workers are reported in the top panel of chart 3 (page 90). Remarkably, the same pattern of gender differences for all workers appears for all countries within the service sector. (Compare the top panel of chart 3 with chart 2.) The absolute levels are different, because men and women in most of the Nordic countries are more likely to work nondays in the service sector than in the industrial sector. But the relatively high levels of women’s nonday employment in the Nordic countries hold, as do the

Chart 2. Nonday work by gender: nonagricultural wage and salary earners aged 25–64 years who usually work nondays (evenings, nights, or rotating shifts), 12 European countries, 2005



Note: All within-country gender gaps are significant at the .05 level or lower, except in Finland and Sweden.

Chart 3. Nonday work by gender: selected sectors and full-time status, nonagricultural wage and salary earners aged 25–64 years who usually work nondays, 12 European countries, 2005



Note: All within-country gender gaps are significant at the .05 level or lower, except in Finland, Norway, and Sweden for full-time workers.

gender differences in the other countries (more nonday work among men than among women). In sum, within the disproportionately female service sector of most of the countries examined, nonday work is still more “men’s work” than it is “women’s work.”

The results within the industrial sector are somewhat different. Comparing the top and middle panels of chart 3 reveals that, in most countries, women employed in the industrial sector are considerably less likely to work nondays than are women working in the service sector, whereas the differences are less marked for men. The middle panel of chart 3 also shows that, within the industrial sector, in all of the countries studied, including the Nordic countries, employed men are more likely to work nonstandard hours than are employed women, and in some countries (including the United Kingdom and Luxembourg), the gender difference is more than twofold. In short, among industrial workers, nonday work is significantly more prevalent among men in all of these countries.

Full-time workers. As noted earlier, women typically work fewer hours than do men in all of the countries examined. This difference prompts the question, “Would gender differences in nonday employment be minimized if only those working 30 or more hours per week were considered?”³² The bottom panel of chart 3 indicates that the direction of the within-country gender differentials evident among all employed workers (as shown in chart 2) remains nearly the same for full-time workers: within the full-time working subsample, employed women’s likelihood of nonday work is not significantly different from men’s in Finland, Norway, and Sweden, and men’s is significantly greater in the other countries. (However, the gender differences, regardless of direction, are, for the most part, substantially smaller among full-time workers.)

In sum, gender differences in nonday employment are evident in all of the countries studied, with men showing significantly higher levels than women in nine countries, and women showing the same or higher levels than men in three (all Nordic). Because women are more likely than men to be in the service sector and less likely to work full time, within-sector differences were examined, and full-time employees were assessed separately. Results showed that the gender pattern in nonday employment for some countries is altered somewhat. In particular, men’s dominance in nonday work was found to be universal in the industrial sector, and gender differences in nonday work narrow among full-time workers. These findings lead to the question, “To what extent do gender differences in

nonday employment result from differences not just in these selected job-related factors, but in other work-related factors—as well as from sociodemographic characteristics?” The answer to this question turns on a multivariate analysis.

Nonday employment: multivariate analyses. When the additional variables are controlled for, do the gender gaps reported earlier in this article persist? Table 1 (page 92) shows the results of a logistic regression analysis that includes measures of both sociodemographic and employment characteristics.³³ These results are from stepwise models in which nonday employment is first regressed on gender alone; then the sociodemographic characteristics of age, education, marital status, and immigration status are added;³⁴ and, finally, the employment characteristics of hours worked, multiple jobholding, industry, and occupation are added. Country-specific regressions were estimated for each of the 12 countries studied.

The first model listed in table 1, a regression of nonday employment on gender alone, reveals that men are more likely to work nonday shifts than are women in all of the countries examined, with the exception of three of the Nordic countries (Sweden, Finland, and Norway). The findings in table 1 are consistent with those reported in chart 2: there are no significant gender differences in Sweden and Finland, and in Norway women are more likely than men to work nondays. In the other nine countries, the gender differentials are statistically significant—in favor of men working nondays.

The second model, which adds sociodemographic controls, shows results similar to those of the first model, except that in Finland the positive relationship (women working more nondays than men) is statistically significant. The overall finding (except in Finland) suggests that gender differences in nonday employment (in either direction) are not explained by differences between women and men in the sociodemographic characteristics measured here.

The third model adds employment characteristics. The first thing to notice is that adding employment characteristics shifts the earlier results in some of the Nordic countries. In Finland and Norway, there is now no statistically significant difference between women and men in nonday employment; that is, female and male workers are equally likely to work nondays. However, in Sweden, being a woman is now negatively associated with nonday work, although the differential is small in cross-national terms. The other nine countries still show a statistically significant negative relationship between being a woman

Table 1. Gender coefficients on usual nonday employment for nonagricultural wage and salary earners aged 25 to 64 years, 12 European countries

Country	Model 1 ¹		Model 2 ²		Model 3 ³	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Nordic countries						
Sweden	0.029	0.037	0.062	0.038	⁵ -.241	0.048
Finland .....	.081	.044	⁵ .154	.045	.018	.052
Denmark	⁴ -.198	.067	⁵ .223	.068	⁵ -.286	.081
Norway	⁵ .172	.047	⁵ .210	.048	-.017	.059
English-speaking countries						
United Kingdom.....	⁵ -.346	.024	⁵ -.354	.025	⁵ -.235	.031
Ireland	⁵ -.253	.036	⁵ -.233	.036	⁵ -.210	.046
Continental countries						
France	⁵ -.433	.035	⁵ -.422	.035	⁵ -.303	.041
Austria	⁵ -.658	.041	⁵ -.686	.041	⁵ -.465	.052
Netherlands.....	⁵ -.167	.024	⁵ -.175	.024	⁵ -.269	.033
Belgium	⁵ -.457	.065	⁵ -.451	.067	⁵ -.322	.079
Luxembourg	⁵ -.600	.074	⁵ -.598	.075	⁵ -.461	.100
Italy	⁵ -.664	.030	⁵ -.644	.031	⁵ -.447	.035

¹ Regression of nonday employment on gender alone.

² Regression of nonday employment on gender, age, education, immigration status, and marital status.

³ Regression of nonday employment on gender, age, education, immigration status, marital status, hours worked, multiple jobs, industry, and occupation.

⁴ $p < .01$.

⁵ $p < .001$.

NOTE: Variables are as follows: *Gender*: male (ref.), female;

Age: 25–34 years (ref.), 35–44 years, 45–54 years, 55–64 years; *Education*: low, medium (ref.), high; *Immigration*: born in member state (ref.), less than 11 years, 11 years or more; *Marital Status*: single, married (ref.), separated; *Hours worked*: 1–9 hours, 10–24 hours, 25–29 hours, 30–34 hours, 35–39 hours (ref.), 40+ hours; *Multiple jobs*: one job (ref.), more than one job; *Sector*: industry (ref.), service; *Occupation*: legislators and managers, professionals (ref.), technicians, clerks, sales and services, crafts, plant and machine operators, elementary occupations.

and nonday employment, but the effect of being a woman is generally reduced (with the Netherlands the one exception). This means that, in these countries, women’s relative exclusion from nonday employment is lessened once job characteristics are controlled for.

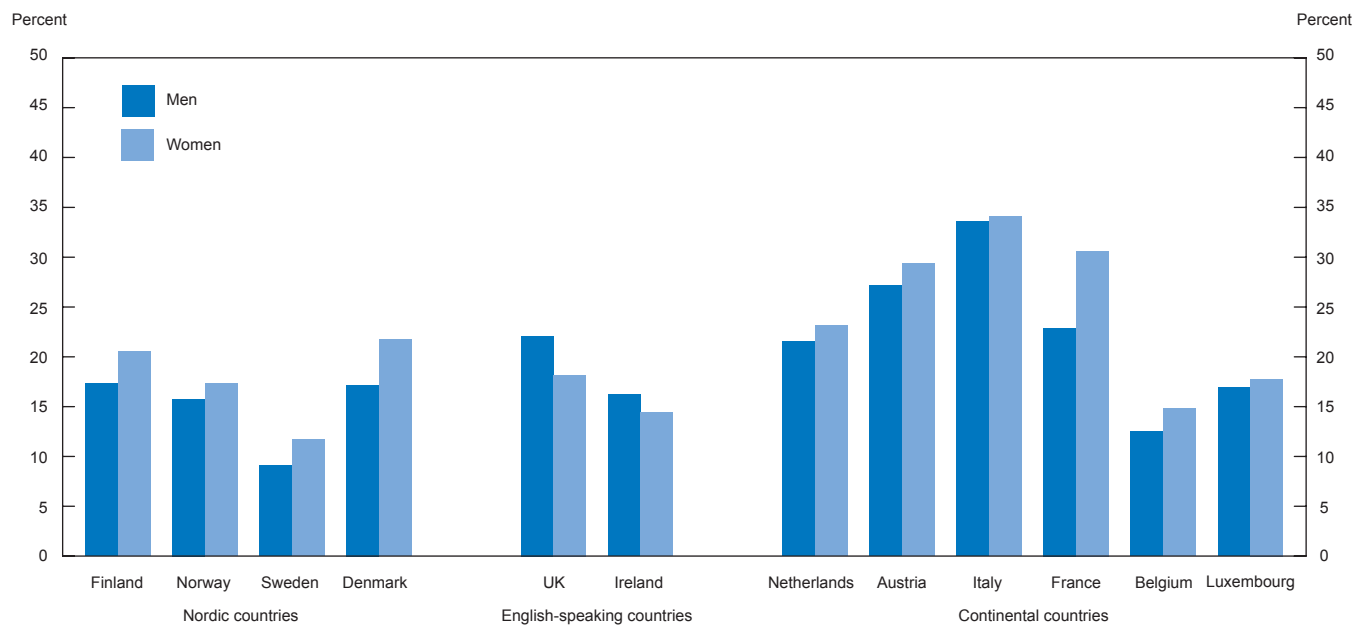
Although the preceding analysis suggests that gender differences in employment reduce, but do not substantially remove, the male dominance in nonday employment, it may be that more refined measures of the same variables would have larger effects. For example, these data from Eurostat allow only eight broad occupational groupings (excluding agriculture) and only two broad economic sectors (industrial and service, again excluding agriculture). Controlling for broader, rather than more detailed, job-related characteristics tends to lessen gender differences.

Weekend employment: bivariate analyses. What about weekend employment? As noted earlier, the analysis pre-

sented here regards weekend employment as more benign than nonday employment with respect to personal and family life, in that weekend employment conforms to a traditional diurnal lifestyle and need not alter one’s circadian rhythms, unless weekend workers also work late hours. Such considerations may serve to minimize gender differences in weekend work in the countries studied. However, gender differences in family pressures and in responsibilities assumed may constrain the willingness of women more so than men to work weekends.

The results reported in chart 4 clearly indicate that men’s dominance in nonday employment does not carry over to weekend work. In all of the countries examined, except for the United Kingdom and Ireland, employed women are *more* likely to work weekends than are employed men (although the gender differences are not statistically significant in Norway, Italy, and Luxembourg). Among the countries in which employed women are significantly

Chart 4. Weekend work by gender: nonagricultural wage and salary earners aged 25–64 years who usually work weekends (Saturday and/or Sunday), 12 European countries, 2005



Note: All within-country gender gaps are significant at the .05 level or lower, except in Norway, Italy, and Luxembourg.

more likely to work weekends than are their male counterparts, the largest difference is in France (30.6 percent for women and 22.9 percent for men), the smallest in the Netherlands (23.2 percent and 21.5 percent, respectively). Comparing chart 4 with chart 2 reveals that gender differentials in nonday employment in the countries studied are not highly associated with gender differences in weekend employment. This finding points to the need to keep nonday and weekend employment separate when studying the role of gender in nonstandard work schedules.

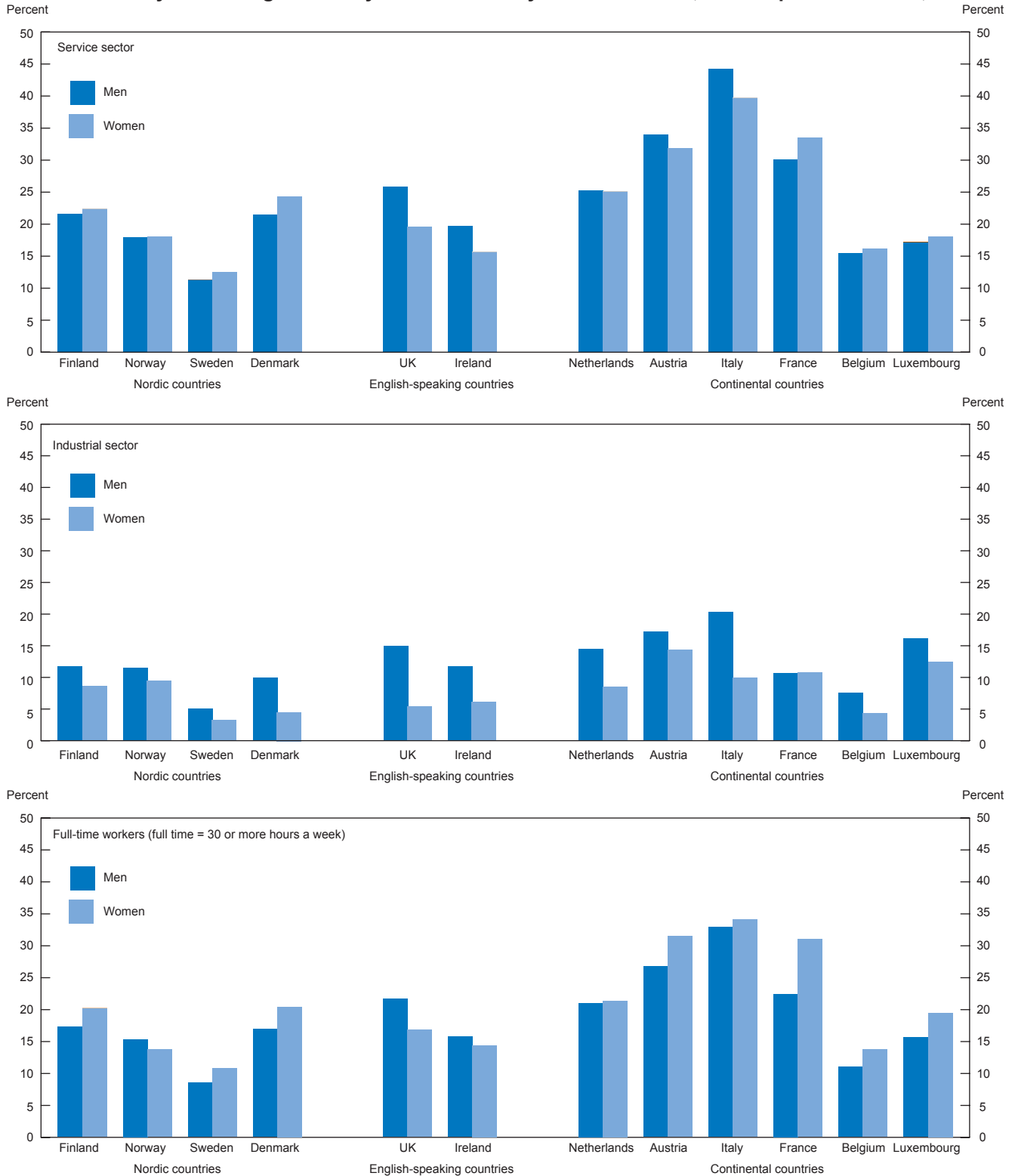
Economic sector. Does the pattern of gender difference in weekend employment (in which women are more likely than men to work weekends) persist *within* economic sectors? The answer is, “Partially,” in the service sector, and “No,” within the industrial sector. The top panel of chart 5 (page 94) shows that, within the service sector, employed men are still more likely than employed women to work weekends in the two English-speaking countries. In the other countries, women’s dominance in weekend work reverses or fades markedly: in Italy, men are now significantly more likely to work weekends, and in the remaining countries the gender differential either has narrowed substantially or is no longer statistically significant. Clearly, some

of women’s overrepresentation in weekend work is due to their high levels of employment in the service sector.

Comparing the middle panel of chart 5 with the top panel shows that weekend employment is more common in the service sector than in the industrial sector in all of the countries studied. Moreover, in almost all of these countries, within the industrial sector *men* are more likely to work weekends than are women—with Italy showing a marked difference (20.4 percent of men, and 10.0 percent of women, working weekends). France is an exception to the pattern of higher levels among men, having about equal percentages for both genders. In sum, women’s overall overrepresentation in weekend employment disappears within the industrial sector.

Full-time workers. As noted earlier, women typically work fewer hours than men do in all of the countries studied. This fact leads to the question whether gender gaps in weekend work shape up differently when only those working full time are considered. As shown in the bottom panel of chart 5, the gender pattern among full-time employees (those working 30 or more hours per week) is similar to that noted for all workers: in most of the countries, women are more likely than men to work

Chart 5. Weekend work by gender: selected sectors and full-time status, nonagricultural wage and salary earners aged 25–64 years who usually work weekends, 12 European countries, 2005



NOTE: All within-country gender gaps are significant at the .05 level or lower, except in Norway, the Netherlands, Austria, Belgium, and Luxembourg for the service sector; in France for the industrial sector; and in Ireland and the Netherlands for full-time workers.

weekends.

In sum, gender differences in weekend employment are evident in all of the countries examined, with women showing higher levels than men in 10 countries: everywhere except the two English-speaking countries. Some variations in this overarching pattern do appear in some countries when workers are broken out by economic sector or by hours worked. Accordingly, the next issue addressed is whether the gender gaps observed in weekend employment persist after these and other employment variables, as well as sociodemographic differences between employed men and women, are controlled for.

Weekend employment: multivariate analyses. Table 2 reports the logistic regression results for weekend employment, with control variables identical to those of table 1. Model 1 reports the relationship between being a woman and weekend work, with the direction of this relationship con-

sistent with the findings reported in chart 4. Again, in the two English-speaking countries, employed men are more likely than employed women to work weekends, whereas everywhere else, employed women are more likely to work weekends (although the gender differences are not significant in Norway, Luxembourg, and Italy). Controlling for the sociodemographic variables (Model 2) does not alter the nature of the relationship in any of these countries (except that the significance disappears in Ireland).

However, as reported in Model 3, controlling for job-related factors has a substantial effect on the gender-gap results. In 4 of the 7 countries that showed an unadjusted positive relationship (weekend employment was more prevalent among employed women than among employed men), the relationship changes to a negative one (men work more on weekends) after the employment variables are added as controls. This is the case in Sweden, Finland, Denmark, and the Netherlands: in all of these countries,

Table 2. Gender coefficients on usual weekend employment for nonagricultural wage and salary earners aged 25 to 64 years, 12 European countries

Country	Model 1 ¹		Model 2 ²		Model 3 ³	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Nordic countries						
Sweden	⁶ 0.200	0.049	⁶ 0.244	0.050	⁶ -0.344	0.062
Finland	⁶ 0.188	.049	⁶ .241	.049	⁴ -.149	.058
Denmark.....	⁶ .291	.071	⁶ .294	.072	⁴ -.207	.090
Norway.....	.010	.054	.064	.055	⁶ -.313	.069
English-speaking countries						
United Kingdom.....	⁶ -.118	.028	⁶ -.102	.029	⁶ -.235	.037
Ireland	⁴ -.086	.041	-.055	.042	-.095	.053
Continental countries						
France	⁶ .384	.031	⁶ .411	.031	.054	.037
Austria	⁵ .114	.036	⁵ .106	.036	-.013	.047
Netherlands.....	⁶ .098	.025	⁶ .094	.026	⁶ -.239	.036
Belgium	⁶ .223	.068	⁶ .234	.069	-.063	.083
Luxembourg .....	.055	.065	.057	.068	⁴ .202	.093
Italy .....	.027	.025	.050	.026	⁶ -.106	.030

¹ Regression of weekend employment on gender alone.

² Regression of weekend employment on gender, age, education, immigration status, and marital status.

³ Regression of weekend employment on gender, age, education, immigration status, marital status, hours worked, multiple jobs, industry, and occupation.

⁴ $p < .05$.

⁵ $p < .01$.

⁶ $p < .001$.

NOTE: Variables are as follows: *Gender*: male (ref.), female;

Age: 25–34 years (ref.), 35–44 years, 45–54 years, 55–64 years; *Education*: low, medium (ref.), high; *Immigration*: born in member state (ref.), less than 11 years, 11 years or more; *Marital Status*: single, married (ref.), separated; *Hours worked*: 1–9 hours, 10–24 hours, 25–29 hours, 30–34 hours, 35–39 hours (ref.), 40+ hours; *Multiple jobs*: one job (ref.), more than one job; *Sector*: industry (ref.), service; *Occupation*: legislators and managers, professionals (ref.), technicians, clerks, sales and services, crafts, plant and machine operators, elementary occupations.

after employment characteristics are controlled for, men are significantly more likely to work weekends. Three countries (France, Austria, and Belgium) shift from showing significantly higher levels of weekend employment for women to virtually no gender difference, and in two countries (Norway and Italy), the absence of a gender difference changes to a greater likelihood of weekend work among men. Apparently, then, in all of the seven countries that showed an unadjusted positive relationship, it is gender differences in hours worked, multiple jobholding, industry, or occupation (or any combination of these factors) that accounts for women's higher (unadjusted) levels of weekend employment or for the lack of difference between women and men. All else being equal—to the extent that all else can be held equal—women's greater engagement in weekend work disappears nearly everywhere once these job-related factors are accounted for. The lone exception is Luxembourg, where being a woman has a significantly positive effect on the odds of working weekends.

Does having children matter?

Clearly, employed women and men report different likelihoods of working nonstandard work schedules. To some extent, gender differences in job characteristics explain the observed gender gaps in nonstandard work schedules. Indeed, as regards weekend employment, gender gaps in job-related factors often reverse the effects of gender altogether.

This section addresses the question of how the presence of children is correlated with the timing of work. As previously noted, research focused on the United States finds that several child-related factors come into play in workers' atypical schedules. Many parents may be choosing these schedules for reasons related to childcare. On the one hand, nonstandard work schedules may allow two-earner couples, as well as parents and grandparents or other relatives or friends, to work different hours and do "tag-team" parenting at little or no financial cost. On the other hand, the absence of formal childcare at nonstandard times makes nonday and weekend employment difficult for parents, especially if they are not married. The relative unavailability of childcare both before and after school hours may constrain women's employment at nonstandard hours, because it is women more than men who, when they are employed, are deemed responsible for arranging for the care of children. The final empirical analysis of work schedule behavior set forth in this article assesses the effects of parental status on the likelihood of working nonstandard hours.

Because, in the Eurostat files provided, only 7 of the 12 countries surveyed include data on the presence of children, a separate set of tabulations and regressions is presented for both nonday and weekend work in just those 7 countries. Also, the analysis is restricted to employees aged 25 to 44 years, because this is the age group most relevant for families with children under age 15.³⁵

Nonday employment. In five countries (the United Kingdom, the Netherlands, Austria, Italy, and Luxembourg) of the seven with data on the presence of children—Belgium and France excluded—employed women with children are *less* likely to work nonday hours than are their counterparts with children. (See the top panel of chart 6.) These differences, however, are remarkably small, and only in Italy (where mothers are less likely to work nondays) is there a statistically significant gap between parents and nonparents.

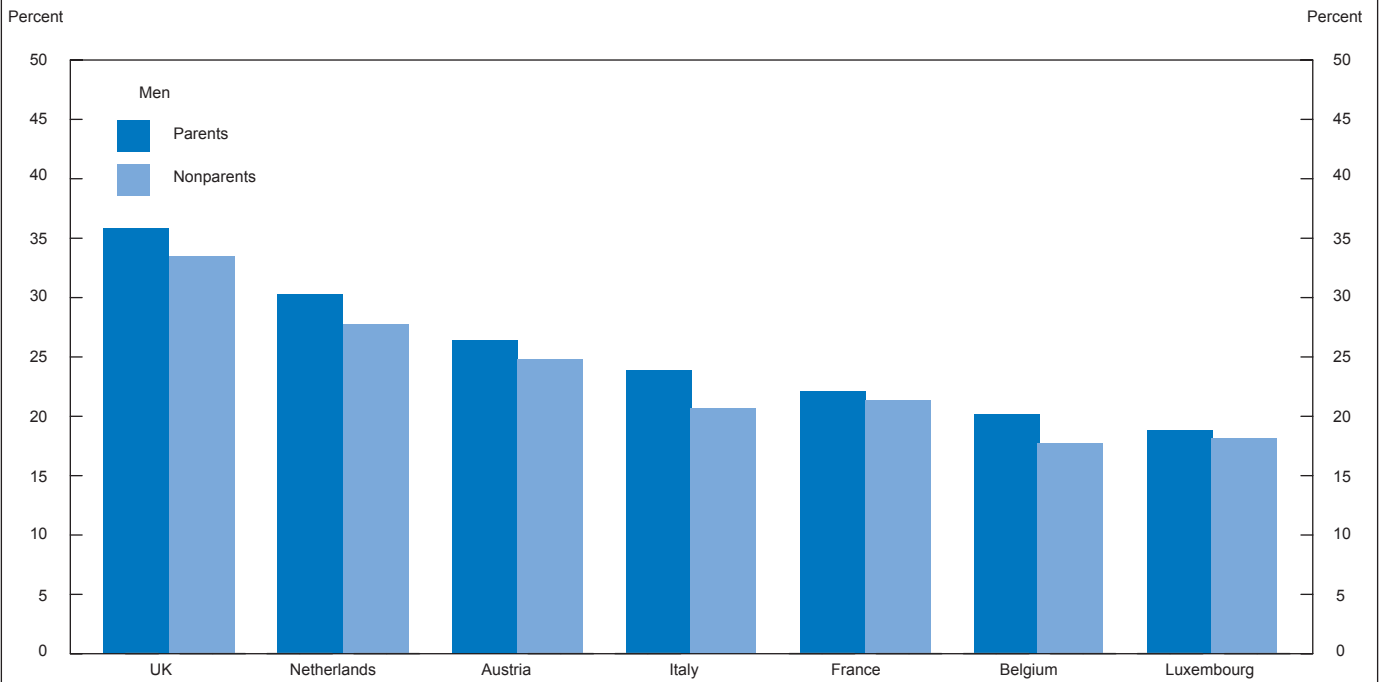
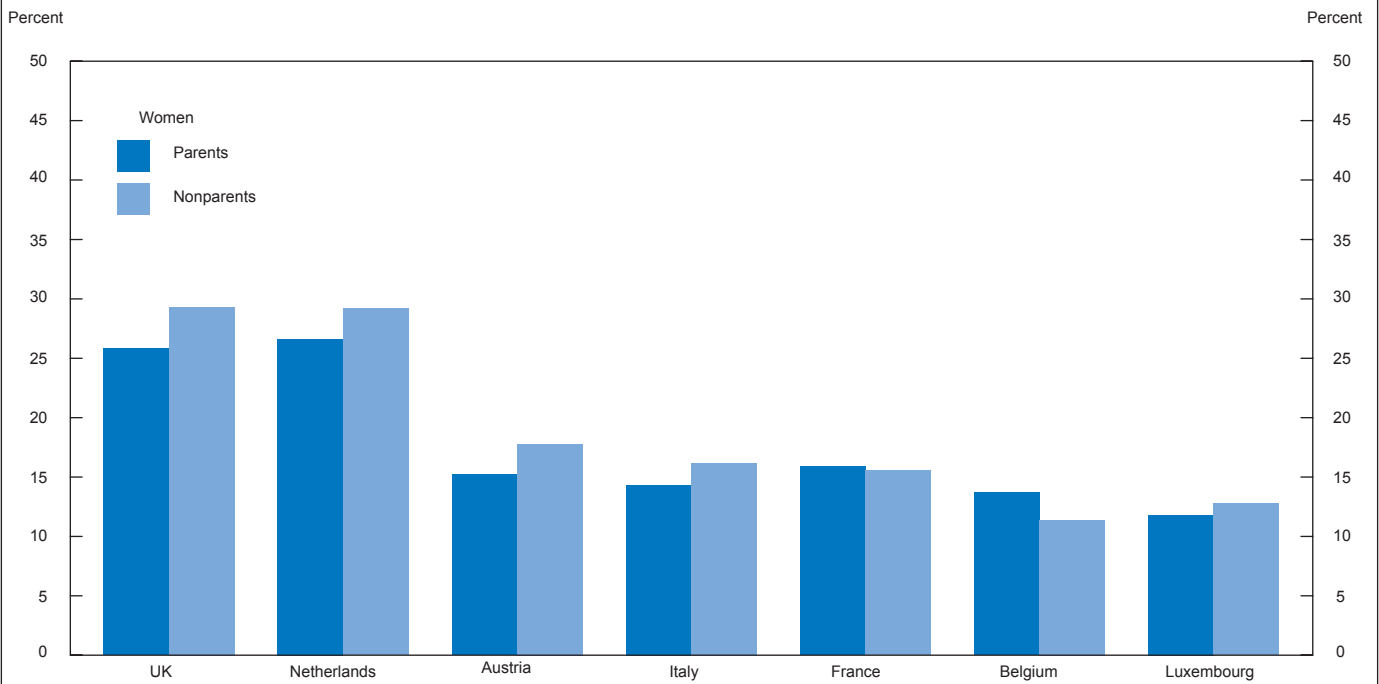
The results are somewhat different for men. As the bottom panel of chart 6 reports, among employed men, fathers are *more* likely to work nondays than are men without children—in all seven countries. However, again, the differences by parental status are small—with significant differences found only in the United Kingdom and Italy.

Table 3 (page 98) reports the results of a multivariate analysis in which the effects of parental status on the odds of nonday employment are estimated. Because the bivariate results showed differences between men and women, the multivariate results were estimated separately by gender. Using the same format as tables 1 and 2, table 3 first reports a model that includes parental status only, then adds sociodemographic characteristics in a second model, and, finally, adds job-related factors in a third model.

The multivariate results confirm that parental status has virtually no effect on the likelihood of working nondays, either with or without controls. Among women, the differential (less nonday work among parents) is statistically significant only in Italy, and once both sociodemographic and job-related controls are added, there are no evident parental effects at all. Among working men also, we see virtually no effects of the presence of children. The lone exception is the United Kingdom, where, with all of the controls in place, fathers are somewhat more likely than nonfathers to work nonday schedules.

Weekend employment. As indicated in the top panel of chart 7 (page 99), among women workers, there is little systematic relationship between weekend employment and parental status. In four countries, mothers are *less* likely than are employed nonmothers to work weekends, while in three

Chart 6. Nonday work by parental status: women and men, nonagricultural wage and salary earners aged 25–44 years who usually work nondays, 7 European countries, 2005



Note: Within-country parent-nonparent gaps are significant at the .05 level only in Italy for women and only in the United Kingdom and Italy for men.

Table 3. Parental status coefficients on usual nonday employment for nonagricultural wage and salary earners aged 25 to 44 years, 7 European countries

Country	Women						Men					
	Model 1 ¹		Model 2 ²		Model 3 ³		Model 1 ¹		Model 2 ²		Model 3 ³	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
English-speaking countries												
United Kingdom...	−0.031	0.086	−0.083	0.092	−0.053	0.096	⁵ 0.209	0.071	0.147	0.077	⁵ 0.212	0.081
Continental countries												
France .....	.122	.149	.185	.153	.094	.158	.116	.104	.172	.108	.205	.112
Austria	−.151	.122	−.067	.131	−.013	.134	.048	.084	.007	.093	.041	.097
Netherlands .....	.108	.121	.092	.126	.034	.130	.134	.083	.068	.088	.074	.093
Belgium .....	.182	.179	.316	.200	.322	.209	.075	.168	−.017	.184	−.040	.191
Luxembourg	−.063	.237	.035	.261	.168	.276	.160	.165	⁴ .371	.189	.323	.199
Italy.....	⁴ −.135	.067	.044	.084	−.033	.088	⁴ .125	.052	.060	.068	.057	.071

¹ Regression of nonday employment on parental status alone.

² Regression of nonday employment on parental status, age, education, immigration status, and marital status.

³ Regression of nonday employment on parental status, age, education, immigration status, marital status, hours worked, multiple jobs, industry, and occupation.

⁴ $p < .05$.

⁵ $p < .01$.

NOTE: Variables are as follows: *Parental status*: nonparent

(ref.), parent; *Age*: 25–34 years (ref.), 35–44 years, 45–54 years, 55–64 years; *Education*: low, medium (ref.), high; *Immigration*: born in member state (ref.), less than 11 years, 11 years or more; *Marital Status*: single, married (ref.), separated; *Hours worked*: 1–9 hours, 10–24 hours, 25–29 hours, 30–34 hours, 35–39 hours (ref.), 40+ hours; *Multiple jobs*: one job (ref.), more than one job; *Sector*: industry (ref.), service; *Occupation*: legislators and managers, professionals (ref.), technicians, clerks, sales and services, crafts, plant and machine operators, elementary occupations.

countries the reverse is true, although the differences are not statistically significant in any of these countries.

Likewise, employed men exhibit considerable variability across countries in the relationship between parental status and weekend employment. (See the bottom panel of chart 7.) In more of these cases than not, fathers are less likely to work weekends than are employed men without children, but again, the differences are clearly small (and significant only in the United Kingdom).

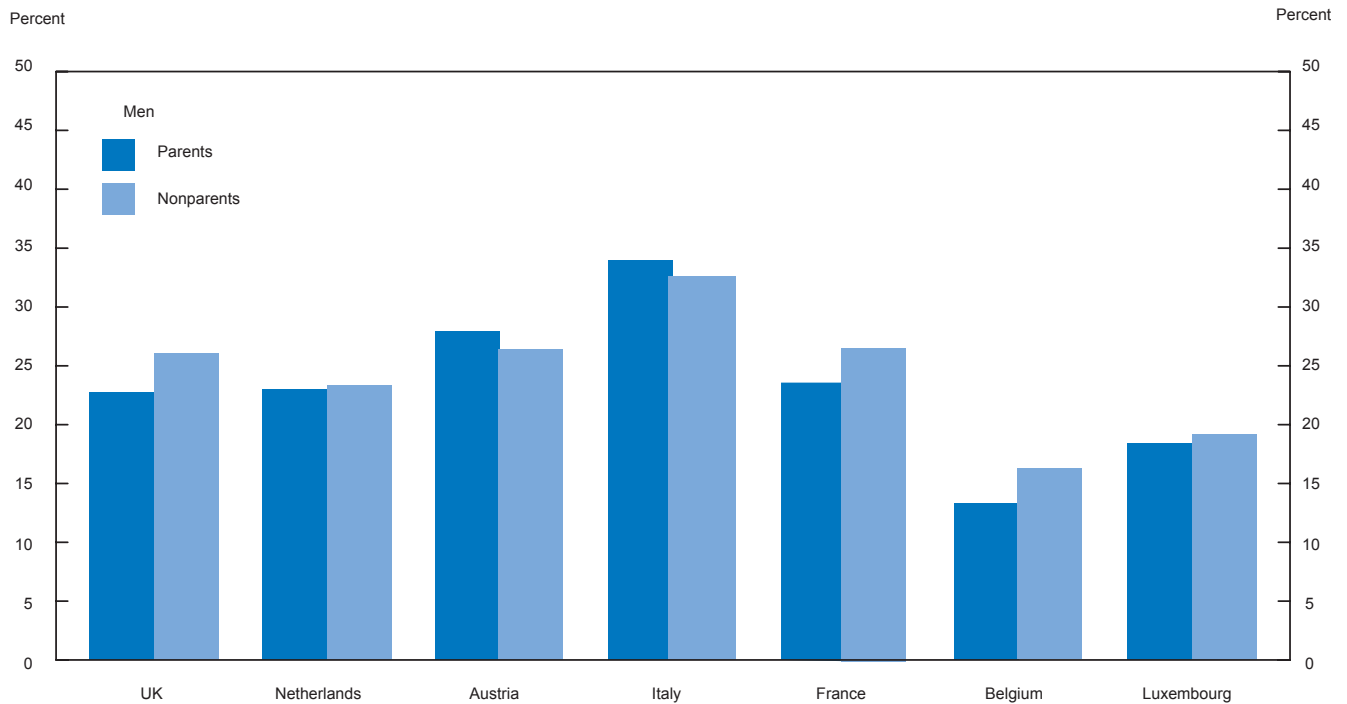
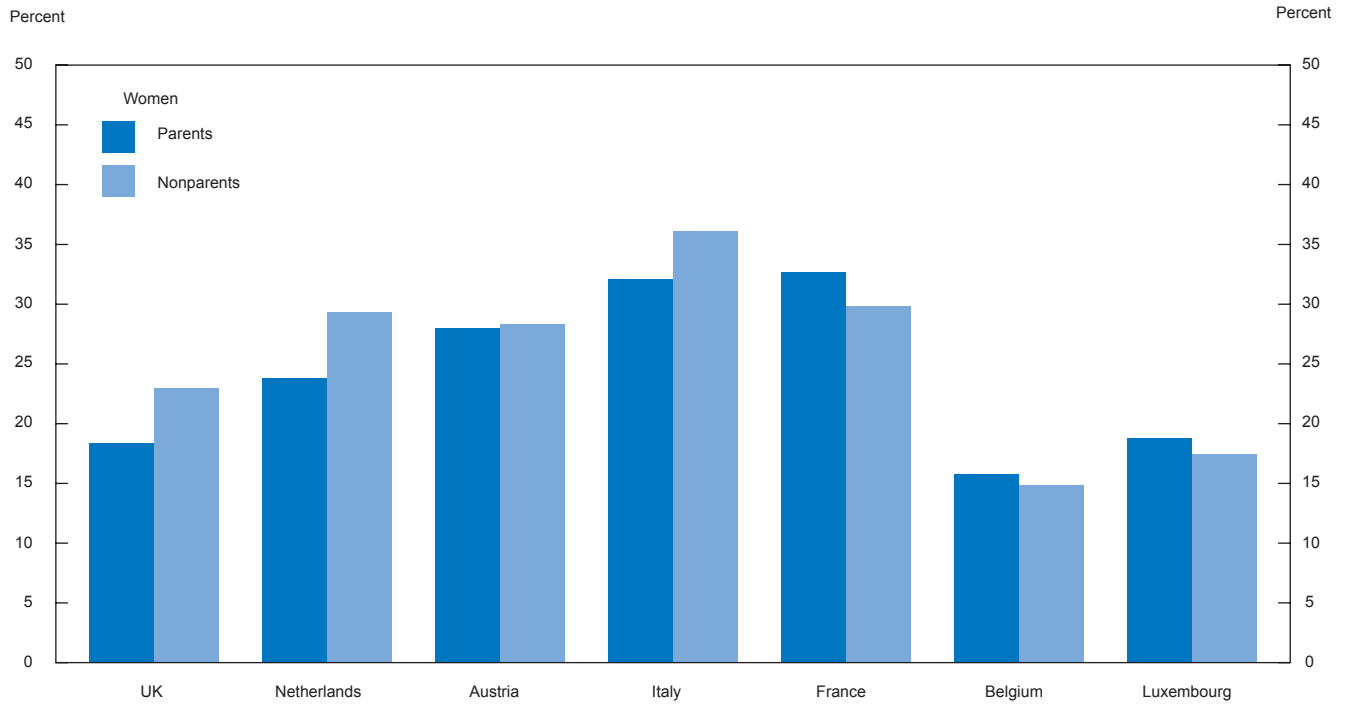
Table 4 (page 100) presents a multivariate analysis that regresses weekend employment on parental status—again, with sociodemographic controls added in Model 2 and job-related factors included in Model 3. Like the nonday results presented in table 3, the multivariate results indicate that parental status has virtually no effect on the likelihood of working weekends, either with or without controls. Among women, with all of the controls in place, the differential is significant only in France (where mothers are *more* likely to work weekends) and in Italy (where mothers are *less* likely to work weekends). Among men, there are no statistically significant effects of parenthood in any of the seven coun-

tries with data on the presence of children.

The absence of parenting effects on both nonday and weekend employment suggests that, in these European countries, as in the United States, workers generally sort—or are sorted—into standard and nonstandard schedules more as a result of demand-side factors (for example, job availability and remuneration) and less as a result of factors related to family composition.

THE FINDINGS PRESENTED IN THIS ARTICLE indicate clearly that, across the 12 European countries examined, a substantial amount of work is being performed at nonstandard hours. In all 12 countries, 15 percent or more of all employees aged 25 to 64 years *usually* work nonday hours; in 5 countries, at least 1 employee in 4 usually works nondays. The prevalence of weekend work, although more varied than nonday work, is also substantial: in all 12 countries, 10 percent or more of all employees aged 25 to 64 years *usually* work weekends, and in 7 countries, between about one-fifth and one-third usually work Saturdays or Sundays (or both).

Chart 7. Weekend work by parental status: women and men, nonagricultural wage and salary earners aged 25–44 years who usually work weekends, 7 European countries, 2005



NOTE: Within-country parent-nonparent gaps are significant at the .05 level only in the United Kingdom for men.

Table 4. Parental status coefficients on usual weekend employment for nonagricultural wage and salary earners aged 25 to 44 years, 7 European countries

Country	Women						Men					
	Model 1 ¹		Model 2 ²		Model 3 ³		Model 1 ¹		Model 2 ²		Model 3 ³	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
English-speaking countries												
United Kingdom...	-0.141	0.095	-0.071	0.102	-0.082	0.108	-0.090	0.079	-0.053	0.088	0.044	0.094
Continental countries												
France.....	.220	.123	⁵ .345	.127	⁵ .357	.132	-.121	.099	-.034	.103	-.057	.111
Austria.....	.015	.104	-.067	.111	-.013	.117	.073	.084	.111	.092	.128	.098
Netherlands	-.060	.121	-.025	.127	-.098	.134	-.020	.087	.079	.093	.106	.101
Belgium....	.012	.160	.033	.183	.125	.196	-.270	.179	-.224	.198	-.204	.210
Luxembourg	.134	.207	.258	.229	.405	.260	-.038	.158	.209	.184	.116	.202
Italy.....	⁴ -.135	.054	-.115	.069	⁴ -.186	.075	.030	.048	.004	.063	.030	.067

¹ Regression of weekend employment on parental status alone.

² Regression of weekend employment on parental status, age, education, immigration status, and marital status.

³ Regression of weekend employment on parental status, age, education, immigration status, marital status, hours worked, multiple jobs, industry, and occupation.

⁴ $p < .05$.

⁵ $p < .01$.

NOTE: Variables are as follows: *Parental status*: nonparent

(ref.), parent; *Age*: 25–34 years (ref.), 35–44 years, 45–54 years, 55–64 years; *Education*: low, medium (ref.), high; *Immigration*: born in member state (ref.), less than 11 years, 11 years or more; *Marital Status*: single, married (ref.), separated; *Hours worked*: 1–9 hours, 10–24 hours, 25–29 hours, 30–34 hours, 35–39 hours (ref.), 40+ hours; *Multiple jobs*: one job (ref.), more than one job; *Sector*: industry (ref.), service; *Occupation*: legislators and managers, professionals (ref.), technicians, clerks, sales and services, crafts, plant and machine operators, elementary occupations.

Given, then, that a substantial minority of the workforce in the 12 European countries examined works at non-standard times, and given that there are potential negative as well as positive consequences of such employment for these workers and their families, more research on this issue is needed. Especially important is gaining a better understanding of the underlying dynamics at the micro-level that lead people to work at nonstandard times and of the reasons for variations by country at the macrolevel.

The European labor force surveys offer a start, in that they enable the researcher to describe some basic parameters and assess the extent of gender differences. However, this multicountry data source has methodological limitations because the collection of data on which hours people work is not fully standardized. Accordingly, compromises have to be made in country comparisons for 2005; for example, when each type of work schedule is of interest and they all have consequences that are different from one another,³⁶ evening, night, and shift work for that year have to be pooled into one nonday category in order to maximize comparability. In addition, it is important to note that those who report that they usually work evenings, nights,

or weekends do not report the number of hours they are so employed; instead, they report only the total weekly hours worked, which may include daytime hours. Not only may countries vary in this regard, but so might the consequences for workers and their families. Further, because the data on nonday employment are not comparable over time for many of the countries, no trends in this regard can be assessed at a time when “flexibilization” of worktime is becoming a major issue in many European countries.

Explaining the variability in the level of nonstandard work schedules among the 12 European countries in 2005 also is not straightforward. The regional distinction shows some homogeneity within country clusters for nonday employment. Such homogeneity is especially evident in the four Nordic countries, with about one-fourth of the employed working nondays in each of the countries. And there is some degree of homogeneity among the Continental countries as well: the 5 countries with the *lowest* rates among the 12 examined are all Continental countries in which about one-fifth or fewer employees work nondays. However, intraregional homogeneity is not as evident for weekend employment.

These findings raise interesting questions about the role that public policy plays in shaping nonstandard-hour work in Europe. Throughout Europe, most employees are subject to European Union-required protections that limit their maximum number of weekly work hours, grant them a minimum number of paid days off per year, and protect them from disproportionate losses in compensation due to working part time. With regard to regulating work schedules, the European Union's 1993 Working Time Directive requires that every worker be entitled to a minimum daily rest period of 11 consecutive hours per 24-hour period and that, within each 7-day period, every worker be entitled to a minimum uninterrupted rest period of 24 hours (plus the 11 hours of daily rest). However, aside from these rest-break regulations, the European Union does not regulate work schedules, neither directly setting retail hours, nor specifying times of day when employment is allowable, nor establishing pay premiums for nonstandard-hour work. Given, then, the absence of supranational policy, it is perhaps not surprising that nonstandard hours are quite prevalent in a number of European countries—and that they vary substantially across countries.

Simply put, this article has asked the question, "Within countries, does gender matter," and the answer is "Yes." Like other aspects of the labor force, nonstandard work schedules vary by gender. Except in three Nordic countries, men are more likely than women to usually work non-day hours—and two of the exceptions are not statistically significant when adjustments are made for differences in sociodemographic and employment characteristics. Even within the service sector, which disproportionately includes women and in which employment at nonstandard times is relatively high, this pattern of male dominance holds. It also obtains when only those employed full time are examined.

But male dominance in nonday employment does not carry over to weekend work: in all but the two English-speaking countries, employed women are more likely to work weekends than are employed men. However, a number of exceptions arise within the service sectors of the

countries examined: three continental countries join the English-speaking countries with higher male than female employment on weekends. Moreover, within the industrial sector, male dominance in weekend work is evident in almost all countries, the lone exception being France, with equal percentages for both genders. As with nonday employment, the gender pattern in weekend employment is similar when only those who work full time are examined: a multivariate analysis reveals that, for most of the countries in which women are more likely than men to work weekends, controlling for employment variables reverses the pattern, and men are seen to be significantly more likely than women to work weekends after adjustments for gender differences in hours worked, multiple jobs, industry, and occupation. Thus, gender differences in job-related factors appear to explain the higher levels of women in weekend employment in these countries.

Finally, the question of whether having children matters was raised. The answer is generally "No," but there are some differences by type of nonstandard work. With regard to motherhood and nonday employment, in 6 of the 7 countries for which data on children were available, differences by parental status were very small or nonexistent. Men showed more consistent differentials by parental status, with higher rates of nonday employment for fathers relative to nonfathers in all 7 countries (although the differences are generally not significant). Multivariate analyses confirmed that the independent effects of parental status are very small for both genders. With regard to the relationship between parental status and weekend employment, there is more variation by country than for nonday employment, for both men and women. However, regression analyses showed no significant difference by parental status for men, and significant differences (in opposite directions) for women in only two countries (France and Italy). Generally, then, one can conclude that parental status makes little difference for either men or women, a conclusion that points again to the potentially strong effects of job-related characteristics on determining who works at nonstandard times. □

Notes

ACKNOWLEDGMENTS: The authors gratefully acknowledge the financial support of the Russell Sage Foundation. They also thank Sylvain Jouhette and other staff at Eurostat for technical assistance.

¹ See *Biological Rhythms: Implications for the Worker*, publication OTA-BA-463 (U.S. Congress, Office of Technology Assessment, 1991); Henrik Bøggild and Anders Knutsson, "Shift Work, Risk Factors, and Cardiovascular Disease," *Scandinavian Journal of Work and Environ-*

mental Health, vol. 25, no. 2, 1999, pp. 85–99; and Alexander Wedderburn (ed.), "Shiftwork and Health," special issue of the *Bulletin of European Studies on Time* (BEST), vol. 1 (Luxembourg, Office for Official Publications of the European Communities, 2000), on the Internet at www.eurofound.ie, Web site of the European Foundation for the Improvement of Living and Working Conditions (visited Feb. 25, 2008).

² Donald I. Tepas and Jana M. Price, "What Is Stress and What Is

Fatigue?” in Peter A. Hancock and Paula A. Desmond (eds.), *Stress, Workload, and Fatigue* (Mahwah, NJ, Lawrence Erlbaum Associates, 2001).

³ Timo Kauppinen, *The 24-Hour Society and Industrial Relations Strategies* (Oslo, Norway, European Industrial Relations Association, 2001).

⁴ It is interesting that, in the United States, the term is “nonstandard” or “atypical” hours, whereas European researchers frequently say “un-social” hours. (See, for example, Jill Rubery, Mark Smith, and Colette Fagan, “National Working-Time Regimes and Equal Opportunities,” *Feminist Economics*, March 1998, pp. 71–101.)

⁵ Harriet B. Presser, *Working in a 24/7 Economy: Challenges for American Families* (New York, Russell Sage Foundation, 2003).

⁶ Presser’s research suggests that the increased tendency toward marital instability does not result from spouses in troubled marriages seeking nonstandard hours; rather, the causality seems to run the other way.

⁷ Wen-Jui Han, “Maternal Nonstandard Work Schedules and Child Cognitive Outcomes,” *Child Development*, January–February 2005, pp. 137–54.

⁸ Jody Heymann, *The Widening Gap: Why America’s Working Families Are in Jeopardy—and What Can Be Done About It* (New York, Basic Books, 2001); Presser, *Working in a 24/7 Economy*.

⁹ Heymann, *The Widening Gap*.

¹⁰ *Ibid.*

¹¹ Wen-Jui Han and Jane Waldfogel, “Maternal Nonstandard Work Schedules and Adolescents’ Socio-Emotional Well-being,” paper presented at the Annual Meeting of the Population Association of America, Philadelphia, Mar. 31–Apr. 2, 2005.

¹² See, for example, Janet C. Gornick, “Gender Equality in the Labor Market,” in Diane Sainsbury (ed.), *Gender Policy Regimes and Welfare States* (Oxford, U.K., Oxford University Press, 1999), pp. 210–42; Janet C. Gornick and Marcia K. Meyers, *Families That Work: Policies for Reconciling Parenthood and Employment* (New York, Russell Sage Foundation, 2003 (paperback, 2005)); and Rubery, Smith, and Fagan, “National Working-Time Regimes” and *Women’s Employment in Europe: Trends and Prospects* (London and New York, Routledge, 1999).

¹³ Harriet B. Presser and Janet C. Gornick, “The female share of weekend employment: a study of 16 countries,” *Monthly Labor Review*, August 2005, pp. 41–53.

¹⁴ Presser, *Working in a 24/7 Economy*.

¹⁵ The Fair Labor Standards Act deals with minimum-wage and overtime compensation when individuals work more than 40 hours a week, but it does not explicitly treat the work shifts of adults.

¹⁶ Presser, *Working in a 24/7 Economy*.

¹⁷ *Ibid.*

¹⁸ All of the European countries in this article, except for Norway, are members of the European Union. Four Union countries—Germany, Greece, Portugal, and Spain—are omitted due to unavailable data or problems in comparability with work schedule questions. Note that Norway voluntarily implements European Union directives.

¹⁹ For reasons of confidentiality, Eurostat would not provide the precise unweighted sample sizes for each of these countries after the subsample for analysis was selected.

²⁰ The restriction of the sample to wage and salary earners is based on

an interest in examining workers who are subject to employer demands and have less control over working at nonstandard times than the self-employed have. Also, in the labor force surveys, questions about shift work were asked only of wage and salary earners. Restricting the sample to nonagricultural workers excludes those working in agricultural industries or in agricultural occupations. Excluding these workers minimizes measurement error because it is difficult to measure their work hours.

²¹ Denmark does not specifically identify evening and night work hours in its survey, “but if the work period is mostly placed in the evening it is defined as evening work and if it takes place in the typical sleeping hours it is defined as night work” (Lone Solbjergohj and Lars Peter Smed Christensen, personal communications, Dec. 14, 2003, and Feb. 20, 2006, respectively).

²² If such workers usually work evenings or nights, they are included in the nonday category.

²³ This definition differs from that used by Presser in *Working in a 24/7 Economy*, in that it does not specify how much of the total hours worked is worked during nonstandard times. Whereas the U.S. survey asks respondents when they worked the *most* hours the previous week, the European labor force surveys include persons who usually work *some*, but not necessarily *most*, of their hours at nonstandard times.

²⁴ Presser and Gornick, “The female share of weekend employment.”

²⁵ See, for example, Gosta Esping-Anderson, *The Three Worlds of Welfare Capitalism* (Princeton, NJ, Princeton University Press, 1990); and Gornick and Meyers, *Families That Work*.

²⁶ For ease of comparison, we adopt this country ordering in all of the charts. That is, the countries are ordered first by region and, within region, by declining levels of nonday employment.

²⁷ The low level for Sweden may be a consequence of a new survey filtering pattern employed by that country since 2003 (as reported by Gunborg Johansson, the Swedish delegate to Eurostat, September 6, 2006). The new pattern led to a substantial drop in the percentage reporting that they usually worked weekends, compared with previous years’ percentages.

²⁸ For a 1997 analysis of separate Saturday and Sunday employment, with a focus on women’s share of such employment in the continental countries, see Presser and Gornick, “The female share of weekend employment.”

²⁹ Presser, *Working in a 24/7 Economy*.

³⁰ In Finland, Norway, and Sweden, the results among women are driven mostly by their greater likelihood (relative to men) of working rotating shifts, rather than evenings and nights in themselves. (Results are not shown.)

³¹ In the subsequent analyses of economic sectors, the labor force survey variable “industrial sector—main job” is used. This variable is variously coded as “agriculture,” “industry,” and “services” in the data set employed in this article. The agriculture sector was excluded from the study, and nonstandard-hour work in the industry sector is contrasted here with nonstandard-hour work in the services sector. It is important to emphasize that this analysis employs an industrial classification, not an occupational classification. Although many of these service-sector workers work in service occupations, an occupational distinction is not what is captured here.

³² Ten of the countries had the option “hours vary” in their surveys, and the range of responses in this category was from 1 percent to 6 percent. These cases were treated as missing in the analysis of full-time workers.

³³ Tables 1–4 report unexponentiated betas, meaning that they indicate the effect (negative or positive) of being a woman on the logarithm of the odds of being employed nondays (or weekends). A negative coefficient indicates that women are less likely to work these nonstandard hours; a positive coefficient means that women are more likely to work such hours.

³⁴ A model also was examined that considered the socioeconomic characteristics listed, absent marital status, followed by a model that added marital status. The aim was to see if marital status would substantially affect the gender coefficients. That turned out not to be the

case for any of the countries in the analysis.

³⁵ Furthermore, in these data, if adults report that they have no children at home, it is not possible to distinguish those who never had children from those whose children have grown up and left home. When the sample is limited to adults under age 45, the likelihood that the childless adults in the sample have never had children increases dramatically. In other words, it is then easier to distinguish between parents and nonparents.

³⁶ Presser, *Working in a 24/7 Economy*.