Why Do Employers Give Discretion? Family Versus Performance Concerns

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Using a large data set of Western European employees, I examine two sets of reasons behind employers' decisions to give discretion: performance concerns (firms give discretion in order to improve performance) and family concerns (firms wish to improve the employees' work–family balance). I find more support for the former than for the latter. Discretion is positively related to the use of "high-performance" work practices and to employee position and ability, and is smaller in larger establishments, which suggests that loss of control matters to employers. Evidence about family concerns is less compelling. Female participation in the labor force has a positive effect on discretion over work schedules, but women have less discretion than men, and employees with small children do not have more discretion than other employees. Large and governmental organizations, which are expected to care more about work–family balance, do not offer more discretion over work schedules than other types of organizations.

Introduction

THE LITERATURE ON SO-CALLED HIGH-PERFORMANCE WORK SYSTEMS (HPWS) (Appelbaum et al. 2000; Ichniowski, Shaw, and Prennushi 1997; Osterman 1994a, 2000) highlights the introduction of greater employee discretion (also referred to as job autonomy, task control, or decision latitude) as one of the key recent developments in human resource management practice. Moreover, discretion regarding work hours and schedules has also been important in the public and scholarly debate on work–family issues (Golden 2001; Goodstein 1994; Osterman 1995; Wood, de Menezes, and

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Lasaosa 2003). This article examines why employers give discretion: Is it because employees will be more productive, or to attenuate work–family conflicts?

Research has largely focused on the consequences of discretion. The literature shows that, when adequately combined with other human resource practices, employee discretion can have a sizeable effect on the volume, cost, and quality of production (Appelbaum et al. 2000; Ichniowski and Shaw 1999). The positive effects on employee well-being and motivation have also been extensively analyzed, mostly by psychologists (Karasek 1979; Parker 2003; Parker and Wall 1998; Singh 2000).[1] However, while the consequences are relatively well understood, scholars have seldom looked at the determinants of discretion. This gap is important, because research on outcomes does not necessarily speak to the question of why employers grant discretion: Whether it is introduced for performance or work–family reasons, discretion will arguably affect both performance and work–family balance.

The reasons why firms give discretion are important because they help us predict how the allocation of discretion will be affected by policy changes and by changes in the social or economic environment. If performance reasons are prevalent, we expect employee discretion to increase as foreign competition increases and more producers in the developed countries turn to high-quality strategies. However, if work–family concerns prevail, we expect demographic changes, changes in government support to families, or changes in female labor force participation to influence employers' decisions. Thus, it does not suffice to know whether discretion improves performance or straightens out work–family conflicts: the reasons why discretion is granted have to be examined.

This paper uses micro data from the third European Working Conditions Survey (EWCS), a large database collected in fifteen European Union countries. The survey provides information about more than twelve thousand individuals across all industries and occupations, and therefore allows for a more complete picture of employee discretion than previously available. Moreover, it has rich information about work characteristics and the employees' families, both of which are necessary to identify whether discretion is granted as a way to increase performance or in order to improve work–family balance. Finally, its international and cross-industry nature makes it a very interesting source of information in a field where industry or national studies prevail.

[1] For example, research in that area has shown that discretion helps employees cope with role tension (Singh 2000), and that negative effects of lean production on employee outcomes are largely due to reduced employee discretion (Parker 2003).

The rest of the paper is organized as follows. The Background section provides a short review of the literature; the Theory section formulates the hypotheses; the Data and Measurement section describes the relevant variables and discusses measurement issues; the Results section presents the results; and the Discussion and Conclusions section discusses the main findings and concludes.

Background

Most researchers define employee discretion as the extent to which employees can organize their own work by choosing the methods and/or the scheduling of work.[2] The only study with evidence on the determinants of both aspects of discretion (methods and scheduling) is by Birkelund, Goodman, and Rose (1996), who are concerned with male–female differences in job characteristics and find no significant difference in discretion. Other studies belong to two unrelated literatures that study one aspect or the other: a literature on delegation and discretion over work methods (Moers 2006; Nagar 2002; Osterman 1994b; Zoghi, Levenson, and Gibbs 2004), and a larger literature that touches on flexible schedules in the wider context of work–family issues (Golden 2001; Goodstein 1994; Osterman 1995; Wood et al. 2003).

Studies on the literature on discretion over work methods take the view that employers grant discretion over work methods in order to increase performance. Nagar (2002) finds that branch managers have significantly more discretion in high-growth, volatile, and innovative banks than in more stable banks, which is consistent with the idea that discretion is used to take advantage of managers' specific knowledge. Zoghi et al. (2004) show that more discretionary jobs tend to score high on three other job characteristics—skill level, multitasking, and task interdependence—which also suggests that performance concerns are important. However, none of these articles tests for family concerns.

[2] Different literatures use different terms to refer to discretion. Besides discretion, the most popular terms are job autonomy, task control, and job decision latitude. The term job autonomy was coined and made popular by Hackman and Oldham (1976) as part of their job characteristics model. Job decision latitude was first introduced by Karasek (1979) in his job demand–job control model—a model that often serves as a framework for the study of work-related stress. Karasek (1979) defines decision latitude as "job control" or "discretion." The distinction between work methods and work scheduling was first made by Hackman and Oldham (1975, 1976), who defined autonomy as "the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out." Other authors (Appelbaum et al. 2000; Jackson et al. 1993; Nagar 2002) use similar definitions.

The second class of studies provides mixed evidence on the relative importance of family and performance concerns. Goodstein (1994) studies why companies offer work flexibility[3] and childcare benefits, and finds evidence that an important motive is to gain social legitimacy, as predicted by institutional theory. Osterman (1995) also examines the determinants of various family-friendly policies, including flexible hours and childcare benefits, but concludes that they are introduced to improve performance within an HPWS strategy. Golden (2001) finds mixed evidence: women have less flexibility than men (which contradicts the work–family view), but married workers have more flexibility than single workers.[4]

Theory

Some think of discretion as a tool to increase performance, but for others its purpose is to help workers balance their work and family lives. These two views are not mutually exclusive, but have distinct implications for the allocation of discretion, which I now describe.

Performance Concerns. Employers may grant discretion because they think that their employees' knowledge will be more fully developed and performance will improve (Osterman 1995; Wood et al. 2003). Within this view, discretion is part of a wider HPWS, which usually includes team production, job rotation schemes, and performance pay. Self-managed production teams and offline problem-solving teams imply greater participation of nonmanagerial employees in decision making. Job rotation helps employees gain a more thorough understanding of business, with which they are able to exercise discretion in a more productive way, and the introduction of performance-related pay seeks to ensure that employees' preferences will be aligned with wider organizational goals. Therefore, employees who participate in a HPWS are expected to have more discretion:

[3] In that paper, job flexibility includes flextime, voluntarily reduced work time, job sharing, work at home, flexible leave, and parental leave.

[4] Others study the determinants of family-friendly management but do not include discretion as part of those policies. Berg, Kalleberg, and Appelbaum (2003) find support for the view that HPWSs improve work–family balance, but unlike Osterman (1995) do not provide evidence on the effect of HPWSs on discretion over work schedules. Wood et al. (2003) test a few competing explanations, including the institutional and HPWS views, for family-friendly policies; but do not consider flexible work schedules as part of such policies. Their data provide some support for the "organizational adaptation" view whereby organizations seek to gain social legitimacy but respond to social pressures in different ways depending on management beliefs and perceptions and the needs of employees.

Hypothesis 1: *Employees involved in a "high-performance" work system will have more discretion.*

Performance concerns imply that more able employees will have more discretion for two different reasons. First, those employees are more likely to be promoted and to be assigned to positions that involve greater responsibilities and more discretion.[5] The importance of promotions is consistent with the job design literature, where discretion is treated as a "job characteristic" (Hackman and Oldham 1976). Promotions are also important according to the internal labor markets approach (Doeringer and Piore 1971), where jobs are relatively fixed and employers can only provide different pay or working conditions by allocating employees to different jobs. I therefore hypothesize that:

Hypothesis 2: *Employees who have more subordinates will have more discretion.*

The second reason to expect a positive relationship between ability and discretion is that, even within the same narrow occupation or job title, employers can give more freedom to the employees that they consider to be more capable. Therefore:

Hypothesis 3: *Within a given position, employees of higher ability will have more discretion.*

Performance concerns also suggest that companies of different sizes will allocate discretion differently. First, there is more division of labor in larger organizations than in smaller ones, and therefore we expect less discretion in the former than in the latter. Second, with discretion, firms lose some control over their employees' decisions, and this problem will be more important in larger organizations where management has less information about the decisions made at lower levels.[6] Hence I propose:

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[5] According to Mintzberg (1979, pp. 79–80), "these jobs managers perform are so varied, and so much switching is required among them in the course of any given day, that managerial jobs are typically the least specialized in the organization." (See also Drucker (1973, Chap. 32).) This "switching" presupposes a high degree of discretion, both in terms of managing one's time and of choosing the methods with which to work, and as employees receive greater managerial responsibilities we naturally expect them to enjoy greater discretion.

[6] According to Drucker (1973, Chap. 54), "A big business has to organize properly the formal, the objective structure. Relationships, information about people, and mobilization of individual energies have to be built into a structure which, of necessity, has to be impersonal, based on policies, on objectives, on abstract definitions of jobs and of contributions, and on the routines of procedures." See also Williamson (1975, Chap. 7), where informational asymmetries within firms are related to firm size; and the comparison of large Route 128 companies versus smaller Silicon Valley companies made by Saxenian (1994, Chap. 2).

Hypothesis 4: *Organizational size will have a negative effect on employee discretion.*

Family Concerns. Employers may also give discretion as part of a policy to help their employees balance family and work. Based on Wood et al. (2003), we can distinguish four theories about family concerns: the institutional theory, the organizational adaptation theory, the equal-opportunity perspective, and the situational perspective.

These theories share the idea that rising levels of discretion are due to the steady increase in the percentage of women in the workforce, which calls for more flexible work arrangements. Moreover, the theories tend to focus on discretion over work schedules, which is considered more important for work–family balance than discretion over work methods. However, there are some nuances. According to institutional theory, organizations conform to social pressures in order to gain legitimacy (Meyer and Rowan 1977). In the context of work–family issues, this would imply that employers give more discretion to be socially accepted and trusted (Goodstein 1994; Wood et al. 2003). In contrast, the other theories posit that firms respond to the needs of their own employees (as opposed to external pressures). Thus, the organizational adaptation view recognizes the importance of legitimation but asserts that managers also take into account whether their own workforce demands discretion. Workforce characteristics are also important in the equal-opportunity perspective: employers are more likely to give discretion when their own employees have stronger work–family conflicts, because in those cases the lack of flexibility would have discriminatory effects for employees with strong family commitments. In a similar way, the situational or "practical response" perspective (Osterman 1995) posits that managers follow a pragmatic approach and only give discretion when their own employees demand it or expect it.[7]

Due to these nuances, these theories have different implications for employee discretion. On the one hand, the institutional and, to some extent, organizational adaptation perspectives imply that changes in the labor market environment, notably the increasing labor force participation of women, will exert pressure on organizations, leading to higher discretion levels. The difference between the two approaches is that in the latter employers react to social pressures differently depending on the composition of their workforce. Hence:

Hypothesis 5: *(a) The presence of women in the labor market will have a positive influence on discretion over work schedules for all employees. (b) The presence of*

[7] According to this approach, discretion is not necessarily part of a broader strategy; instead, it is introduced in a piecemeal way as a practical response to specific personnel problems.

women in the labor market will have a positive influence on discretion over work schedules for those employees who have more compelling family obligations.

On the other hand, the organizational adaptation, equal-opportunity, and situational perspectives posit that each firm will choose a different level of discretion taking into account the employees' needs. Therefore:

Hypothesis 6: *Firms will grant more discretion over work schedules when employees have more compelling family obligations.*

Ownership plays an important role in institutional theory because public employers and large private employers are expected to be more sensitive to social pressures than small private employers.[8] I therefore propose:

Hypothesis 7: *(a) Organizational size will have a positive effect on discretion over work schedules; and (b) so will public ownership.*

The organizational adaptation perspective underlines the importance of management attitudes toward employee requests. Managers with more open attitudes have more thorough knowledge of their employees' needs and greater predisposition to introduce the organizational changes that are needed. Hence,

Hypothesis 8: *Openness of management toward employee requests will have a positive effect on employee discretion over work schedules.*

Finally, the equal-opportunity perspective considers family-friendly practices as a way to provide equal opportunities for men and women, and for employees with different family commitments. I hypothesize that companies with more active antidiscrimination policies will grant more discretion over work schedules. Moreover, if such equal opportunity policies are successful, I expect companies with more active policies to have less discrimination. Therefore I propose:

Hypothesis 9: *Discrimination in the workplace will be negatively related to employee discretion over work schedules.*

Data and Measurement

The third European Working Conditions Survey (EWCS) was conducted in 2000 by the European Foundation for the Improvement of Living and

[8] Larger organizations have greater visibility, and failure to conform to social pressures would undermine their social reputation. As far as public organizations are concerned, it is argued that politicians will have an incentive to act according to their voters' preferences and will therefore grant more discretion.

Working Conditions (Paoli and Merllié 2001). It is based on personal interviews and includes more than 21,000 individuals from fifteen Western European countries, corresponding to a 56-percent response rate.[9] The sample is comprised of government and non-government employees, and self-employed individuals. Given that this research focuses on employee discretion, I exclude the latter and keep all (government and non-government) employees. This restriction and the differences in response rates across questions leave approximately twelve thousand usable observations. Details of variables' definitions and summary statistics are given in Tables 1 and 2.

Employee Discretion. There are five questions on employee discretion, which are summarized at the top of Table 2. Employees are asked whether they can choose the order in which they conduct different tasks, the methods with which they work, the speed or rate of work, the timing of breaks, and the working hours. Given the positive correlation among those variables and the fact that they all refer to relevant aspects of discretion,[10] I use a 0–5 index, defined as the sum of the five discretion variables (Cronbach's alpha: 0.731). This index of discretion varies across countries and industries. It is highest in Denmark, Sweden, and the Netherlands, and lowest in Spain, Portugal, and Greece.

As far as industries are concerned, the index is highest in the financial and real estate industries, and lowest in the food, textile, and land transportation industries. Most manufacturing industries are in fact below the average, whereas most service industries are above the average.[11]

High-Performance Work Practices. The survey includes questions on teamwork, job rotation, vertical communication, continuous improvement, and performance pay (see Table 2). All of them measure the respondent's involvement, rather than the frequency of those practices at the organizational level. Performance pay, job rotation, and teamwork are defined in standard ways and are captured by dummy variables. Vertical communication measures whether employees can discuss aspects of work organization with their superiors and is captured by a dummy variable based on the employee's

[9] There are one thousand five hundred observations per country, with the only exception Luxembourg, for which there are only five hundred observations. The fact that all countries were equally surveyed implies that the smaller countries are over-represented in the sample, but the average levels of discretion for the European Union practically do not change when the country weights are corrected. The complete questionnaire is available in Paoli and Merllié (2001, Annex 1).

[10] As noted above, previous research defines discretion as the extent to which employees can autonomously choose work methods and scheduling.

[11] This is an interesting fact, given that most scholarly research on new work practices has focused on manufacturing.

TABLE 1

DEFINITIONS OF THE VARIABLES

	Variable	Code	Question(s)	Type
1.	Order	Q.25.1	Are you able to choose or change your order of tasks?	Dummy
2.	Methods	Q.25.2	Are you able to choose or change your methods of work?	Dummy
3.	Speed	Q.25.3	Are you able to choose or change your speed or rate of work?	Dummy
4.	Breaks	Q.26.2	You can take your break when you wish.	Dummy
5.	Hours	Q.26.4	You can influence your working hours.	Dummy
6.	Teamwork	Q.27.b.2	Does your job involve doing all or part of your work in a team?	Dummy
7.	Job rotation	Q.27.b.1	Does your job involve rotating tasks between yourself and colleagues?	Dummy
8.	Vertical communication	Q.30.b.2	Do you exchange views with your superiors about your working conditions in general or about the organization of your work when changes take place?	Dummy
9.	Improvement	Q.30.c.1	Do these exchanges of views lead to improvements at your own personal workplace?	Discrete 0–3 index
		Q.30.c.2	Do these exchanges of views lead to improvements in your office or factory?	
		Q.30.c.3	Do these exchanges of views lead to improvements in the organization as a whole?	
10.	Performance pay	EF.22	If you are an employee, what does your remuneration include? 2. Piece rate or productivity payments. 7. Payments based on the overall performance of the company (profit sharing scheme) where you work. 8. Payments based on the overall performance of a group. 9. Income from shares in the company you work for.	Dummy
11.	Subordinates	Q.8	How many people work under your supervision, for whom pay increases, bonuses, or promotion depend directly on you?	Discrete 0–3 index
12.	Establishment size	Q.7	How many people in total work in the local unit of the establishment where you work?	Discrete 0–7 index
13.	Firm tenure	Q.3.a	How many years have you been in your company or organization? (If less than one year) How many months?	Continuous
14.	Job tenure	Q.3.b	How many years have you been in your present main job? (If less than one year) How many months?	Continuous
15.	Age	EF.11	How old are you?	Continuous
16.	Children	EF.13	How many children under 15 are currently living at home?	Discrete 0–4 index
17.	Female	EF.10	Sex	Dummy
18.	Household size	EF.12	How many people live in your household, including yourself, all adults, and children?	Discrete 0–5 index
19.	Main income	EF.19.b)	Are you the person who contributes most to the household income?	Dummy
20.	Housekeeper	EF.19.a)	Are you the person mainly responsible for ordinary shopping and looking after the home?	Dummy

TABLE 1 (cont.)

	Variable	Code	Question(s)	Type
21.	Discrimination in establishment	Q.32	In the establishment where you work, are you aware of the existence of . . . ? 4. Sexual discrimination. 6. Age discrimination. 7. Discrimination linked to nationality. 8. Discrimination linked to ethnic background/race. 9. Discrimination linked to disability. 10. Discrimination linked to sexual orientation.	Discrete 0–6 index
22.	Discrimination against respondent	Q.31	Over the past 12 months, have you, or have you not been subjected at work to . . . ? (same items as in Q.32)	Discrete 0–6 index
23.	Women's labor force participation		Eurostat Labor Force Survey	Continuous

TABLE 2

SUMMARY STATISTICS

	Variable	Obs	Mean	Std. Dev.	Min.	Max.
1.	Order	17,597	0.628	0.483	0	1
2.	Methods	17,591	0.664	0.472	0	1
3.	Speed	17,518	0.664	0.472	0	1
4.	Breaks	17,616	0.556	0.497	0	1
5.	Hours	17,566	0.379	0.485	0	1
6.	Teamwork	17,575	0.620	0.485	0	1
7.	Job rotation	17,598	0.479	0.500	0	1
8.	Vertical communication	14,611	0.906	0.292	0	1
9.	Improvement	13,007	2.073	1.111	0	3
10.	Performance pay	17,731	0.114	0.318	0	1
11.	Subordinates	17,632	0.285	0.743	0	3
12.	Establishment size	17,731	4.338	2.014	0	8
13.	Firm tenure	17,656	9.442	9.290	0.083	72
14.	Job tenure	17,621	9.198	9.114	0.083	60
15.	Age	17,731	37.772	11.104	15	65
16.	Children	17,731	0.712	0.958	0	4
17.	Female	17,731	0.473	0.499	0	1
18.	Household size	17,727	1.961	1.328	0	5
19.	Main income	17,705	0.616	0.486	0	1
20.	Housekeeper	17,709	0.536	0.499	0	1
21.	Discrimination in establishment	17,033	0.241	0.811	0	6
22.	Discrimination against respondent	17,617	0.076	0.361	0	1
23.	Women's labor force participation	15	0.614	0.091	0.463	0.756

answer. Continuous improvement refers to whether such discussions lead to actual improvements (see Table 1), and is measured through a 0–3 index (Cronbach's alpha: 0.741). Although there would be conceptual reasons to do so, I do not construct an aggregate index of work practices because

Cronbach's alpha is too low (0.328) for the five variables considered. The correlations between the discretion variables and the high-performance work practices are positive.

Employee Position within the Organization. In addition to standard two-digit occupational codes, the EWCS reports the number of subordinates, classified in four intervals (no subordinates, 1–4, 5–9, and 10 or more), and defined as "people that the employee supervises and whose pay increases, bonuses, or promotions depend directly upon him." Note that the question does not refer to the number of direct subordinates—in fact, managers at top positions have few direct subordinates—but the extent to which the respondent has managerial responsibilities. The number of subordinates defined in that way is positively correlated with all measures of discretion.

Employee Ability. Ability is not directly observable, and the survey does not have questions about educational attainment. However, information about the employee's tenure in the firm and tenure on the job can be used to construct a proxy for ability. According to recent empirical evidence on internal labor markets (Baker, Gibbs, and Holmstrom 1994; Seltzer and Merrett 2000), there is a high correlation between time to promotion and the probability of being promoted again in the future. This finding implies that staying in the same job for a long time is a sign of "low ability," whereas staying for a short time can be regarded as a sign of "high ability." Thus, job tenure must be negatively correlated with ability, controlling for age and tenure in the firm. I therefore use an interaction term between firm tenure and job tenure to proxy for ability.

Organizational Size. Establishments are classified into eight sizes, measured by the number of employees.[12] The average person in the sample works in an establishment with ten to forty-nine employees, and approximately 75 percent of individuals in the sample work in establishments with fewer than 100 employees.[13] Establishment size is positively correlated with all measures of discretion except one (breaks).

[12] The eight categories are: No employee (apart from the respondent), 2–4, 5–9, 10–49, 50–99, 100–249, 250–499, and 500 employees and over.

[13] To check whether the EWCS distribution of establishment sizes is representative of the true distribution, I have compared the EWCS distribution of establishments with census-based data from the Observatory of European Small and Medium-Sized Enterprises (2002). The EWCS distribution is consistent with those data and with the fact that European firms are smaller than U.S. firms (see Mills, Thrasher, and Fischer (2004) for the United States).

Public Sector. As noted below, the EWCS specifies the industry where the employer's main economic activity takes place. Based on this information, I use a dummy variable equal to 1 when the employee works in the public administration.

Labor Force Participation of Women. I use official statistics from Eurostat's Labor Force Survey to construct the labor force participation variable. Since this variable will be used to test institutional theory, and given that this perspective emphasizes the importance of social pressures at the macro level, I use the national labor force participation averages (all referring to the year 2000) instead of the regional rates. There is considerable variation in female participation, from 46.3 percent for Italy to 75.6 percent for Denmark. Moreover, female participation is positively correlated with employee discretion across countries.

Family Obligations. I use five proxies to measure the employees' family obligations. The first one is a female dummy. There is extensive evidence that women spend much more time than men in housework and taking care of children and elderly or disabled relatives. In particular, the EWCS contains questions on the frequency with which employees take part in such activities, and reveals great differences between men and women. Summary statistics show that the difference in average male and female discretion is very small (3 percentage points or less) for all measures of discretion except breaks—the difference in discretion over breaks is 10 percentage points. Moreover, its sign varies for different aspects of discretion: for the order and methods of work, female discretion is higher than male discretion, but for the other three aspects, average discretion is smaller for women than for men. The second variable measures how many children below age fifteen live with the employee, and takes on five possible values, from 0 (no children) to 4 (four or more children). The correlations between these two variables and the various measures of discretion are negative in some cases and positive in other cases. The third variable measures the size of the household and takes on six possible values, from 0 (the employee lives alone) to 5 (the employee lives with five or more people). This variable is negatively correlated with all discretion measures. The fourth variable is a dummy equal to 1 if the respondent is the main income earner in the household, and is positively correlated with discretion. Last, the fifth variable is a dummy equal to 1 if the respondent is the main person responsible for shopping and taking care of the house. This variable is positively correlated with all measures of discretion except breaks.

Openness of Management. The extent to which management has an open attitude toward employees' requests is measured with the vertical

communication and improvement variables described above (see paragraph on high-performance work practices). Both variables are positively correlated with all measures of discretion.

Discrimination. Respondents report whether they have suffered discrimination over the last year (question 31), and also whether they are aware of the existence of discrimination in their workplace (question 32). Six different types of discrimination (based on sex, age, nationality, ethnic background or race, disability, and sexual orientation) are considered. Since I want to measure the presence of discrimination in the workplace, in most cases I use the questions that refer to the establishment (question 32) instead of the respondent (question 31). With those questions I define an index equal to the sum of the six discrimination types (Cronbach's alpha: 0.776). This index is positively correlated with some measures of discretion (order and methods), but negatively correlated with the rest (speed, breaks, and hours). I also construct an analogous index measuring whether the respondent has personally suffered discrimination (Cronbach's alpha: 0.515).

Controls. I use country, occupation, and industry dummies as controls. Occupational dummies are based on International Standard Classification of Occupations (ISCO-88) submajor groups (i.e., two-digit groups). Industry definitions follow the European general nomenclature of industrial activities (NACE Rev. 1). Industries are defined at the one-digit level, with two exceptions: manufacturing and transport and storage and communication, which are disaggregated at the two-digit level. I also use age and age^2 as additional controls.

Results

I estimate a logit model for each of the five employee discretion variables (order, methods, speed, breaks, and hours), using the explanatory variables described in the previous section. Results from the baseline model are shown in Table 3, which includes the estimated coefficients and changes in probability.[14] Three high-performance work practices have a positive effect on employee discretion. Performance pay contracts increase the probability

[14] Changes in probability are defined as $d\mathrm{P} = P_1 - P_0$, where P_0 is the estimated probability at the means of the explanatory variables, and P_1 is the estimated probability when the variable of interest is evaluated 1 standard deviation above its mean and all other variables are evaluated at their means. When the variable of interest is a dummy, I report the estimated change in probability when the variable increases from 0 to 1 (see Petersen (1985) for details).

TABLE 3

LOGITS FOR EMPLOYEE DISCRETION

	Order	Methods	Speed	Breaks	Hours
Performance pay	0.155**	0.266***	0.143**	0.255***	0.253***
	(0.069)	(0.070)	(0.068)	(0.066)	(0.063)
	[0.030]	[0.046]	[0.027]	[0.059]	[0.062]
Vertical communication	0.246***	0.233***	0.151**	0.220***	0.141*
	(0.072)	(0.073)	(0.071)	(0.071)	(0.075)
	[0.050]	[0.044]	[0.030]	[0.053]	[0.034]
Improvement	0.145***	0.153***	0.211***	0.111***	0.139***
	(0.020)	(0.020)	(0.019)	(0.019)	(0.019)
	[0.030]	[0.029]	[0.043]	[0.029]	[0.038]
Teamwork	–0.025	–0.089*	–0.061	–0.087*	–0.005
	(0.050)	(0.051)	(0.049)	(0.048)	(0.047)
	[–0.005]	[–0.016]	[–0.012]	[–0.021]	[–0.001]
Job rotation	0.003	0.037	0.037	–0.136***	–0.059
	(0.047)	(0.048)	(0.047)	(0.045)	(0.044)
	[0.001]	[0.007]	[0.007]	[–0.032]	[–0.014]
Subordinates (1–4)	0.608***	0.588***	0.392***	0.382***	0.391***
	(0.085)	(0.087)	(0.082)	(0.076)	(0.071)
	[0.104]	[0.093]	[0.071]	[0.086]	[0.097]
Subordinates (5–9)	0.543***	0.522***	0.285**	0.445***	0.467***
	(0.129)	(0.131)	(0.120)	(0.114)	(0.104)
	[0.093]	[0.082]	[0.052]	[0.099]	[0.116]
Subordinates (10+)	0.941***	0.811***	0.580***	0.713***	0.679***
	(0.128)	(0.127)	(0.117)	(0.108)	(0.095)
	[0.147]	[0.119]	[0.099]	[0.152]	[0.168]
Establishment size (2–4)	–0.424**	–0.430**	–0.326*	–0.105	–0.251*
	(0.172)	(0.176)	(0.170)	(0.161)	(0.150)
	[–0.089]	[–0.084]	[–0.067]	[–0.025]	[–0.060]
Establishment size (5–9)	–0.608***	–0.513***	–0.439***	–0.498***	–0.576***
	(0.171)	(0.174)	(0.169)	(0.158)	(0.149)
	[–0.130]	[–0.101]	[–0.092]	[–0.121]	[–0.132]
Establishment size (10–49)	–0.670***	–0.618***	–0.516***	–0.763***	–0.520***
	(0.166)	(0.170)	(0.164)	(0.154)	(0.144)
	[–0.138]	[–0.118]	[–0.105]	[–0.183]	[–0.123]
Establishment size (50–99)	–0.704***	–0.655***	–0.500***	–0.759***	–0.522***
	(0.174)	(0.178)	(0.172)	(0.161)	(0.151)
	[–0.153]	[–0.133]	[–0.106]	[–0.186]	[–0.120]
Establishment size (100–249)	–0.813***	–0.795***	–0.490***	–0.656***	–0.375**
	(0.175)	(0.179)	(0.173)	(0.163)	(0.152)
	[–0.179]	[–0.165]	[–0.104]	[–0.161]	[–0.088]
Establishment size (250–499)	–0.706***	–0.738***	–0.541***	–0.667***	–0.497***
	(0.185)	(0.188)	(0.182)	(0.172)	(0.162)
	[–0.155]	[–0.154]	[–0.116]	[–0.164]	[–0.114]
Establishment size (500+)	–0.732***	–0.846***	–0.484***	–0.684***	–0.400***
	(0.176)	(0.179)	(0.174)	(0.164)	(0.154)
	[–0.160]	[–0.176]	[–0.102]	[–0.167]	[–0.093]
Firm tenure	0.014***	0.022***	0.002	–0.006	–0.0004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)
	[0.017]	[0.019]	[–0.006]	[–0.013]	[–0.006]

TABLE 3 (cont.)

	Order	Methods	Speed	Breaks	Hours
Job tenure	0.005	0.013**	0.009*	0.005	–0.001
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
	[0.0003]	[0.004]	[0.007]	[0.010]	[–0.003]
Firm tenure × Job tenure	–0.0005**	–0.001***	–0.0005**	–0.00002	–0.0003
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Age	0.058***	0.033**	0.011	0.048***	0.001
	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)
	[–0.013]	[–0.001]	[0.001]	[0.018]	[0.010]
Age^2	–0.001***	–0.0004**	–0.0001	–0.0005***	–0.00003
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Children	–0.007	–0.037	–0.062**	–0.005	–0.011
	(0.032)	(0.032)	(0.031)	(0.030)	(0.030)
	[–0.001]	[0.007]	[–0.012]	[–0.001]	[–0.003]
Female	–0.134	–0.117	–0.275***	–0.543***	–0.262***
	(0.083)	(0.084)	(0.081)	(0.077)	(0.076)
	[–0.034]	[–0.028]	[–0.034]	[–0.092]	[–0.050]
Household size	–0.009	–0.011	–0.008	–0.048*	–0.002
	(0.026)	(0.026)	(0.026)	(0.025)	(0.025)
	[–0.002]	[–0.005]	[0.004]	[–0.003]	[–0.001]
Female × Household size	–0.021	–0.019	0.052	0.078**	0.060**
	(0.032)	(0.033)	(0.032)	(0.031)	(0.030)
Discrimination in establishment	–0.002	0.012	–0.046*	–0.113***	–0.050**
	(0.026)	(0.027)	(0.025)	(0.024)	(0.024)
	[–0.0003]	[0.002]	[–0.007]	[–0.022]	[–0.010]
Women's participation	5.449***	3.796***	1.276***	0.718***	4.525***
	(0.274)	(0.276)	(0.266)	(0.255)	(0.255)
	[0.083]	[0.055]	[0.021]	[0.015]	[0.098]
Number of observations	11,960	11,958	11,917	11,964	11,934
Pseudo R^2	0.120	0.102	0.053	0.106	0.088
Estimated probability	0.733	0.763	0.732	0.617	0.412

NOTE: The table reports estimated coefficients, standard errors (in parentheses), and changes in probability (in brackets). Levels of significance: 1 percent (***), 5 percent (**) and 10 percent (*). All regressions include a constant term, 24 industry dummies, and 26 occupation dummies. Changes in probability are in probability units, i.e., 0.030 means that the probability increases by 3 percentage points, for example from $P_0 = 0.560$ to $P_1 = 0.590$. For the dummy variables, I report the change in probability when the variable of interest moves from zero to one. Otherwise, I report the change in probability when the variable of interest increases by one standard deviation. To compute the estimated probabilities, variables other than the variable of interest are evaluated at their means, with two exceptions: for the interaction terms, I use the product of the means and for age^2 I use the square of the mean. Finally, for the tenure variables, I take into account that an increase in job tenure or firm tenure raises the interaction term (Firm tenure × Job tenure). Likewise, the changes in probability for female and household size take into account the effect on the interaction term, and the change in probability for age accounts for the effect on age^2. For this reason, changes in probability for the interaction terms and for age^2 are not reported.

of discretion over work methods (order, methods, and speed) and work scheduling (breaks and hours). The effect on the work scheduling variables is larger than the effect on the work methods variables: the estimated changes in probability are 6 percentage points versus 3–5 percentage points, respectively. Employees whose superiors are more open to receive and

implement suggestions also enjoy greater discretion than those with less receptive superiors: the effects of the vertical communication variable are always significant and raise the probability of discretion by 3–5 percentage points for both work methods and work scheduling. Actual work improvement also has a significant effect on all discretion variables and raises estimated probabilities by about 3–4 percentage points. However, the results for the two remaining high-performance work practices are insignificant or have the "wrong" sign: teamwork does not have any significant effect on most discretion variables and actually reduces discretion over methods and breaks by 2 percentage points. Job rotation does not generally have a significant effect either, and has a negative, 3-percentage point effect on discretion to take breaks.

The employee's position in the organization has a large positive effect upon discretion. Controlling for two-digit occupations, the probability of having discretion is 7–10 percentage points higher for an employee with one to four subordinates compared to an employee with no subordinates. For an employee with ten or more subordinates, the probability of discretion is 10–17 percentage points higher than for an employee with no subordinates. The coefficients for one to four and five to nine subordinates are not statistically different from each other, but are statistically smaller than the coefficient for more than ten subordinates. Occupational dummies, which for the sake of concision are not reported, also indicate significant differences in discretion between higher- and lower-level occupational categories.

For concision's sake, coefficients for the industry dummies are not reported in Table 3. Public administrations provide approximately the same discretion over order, methods, and speed as employers from other industries.[15] The picture is a bit different for the aspects of discretion that are more related to work scheduling (breaks and hours): no industry gives significantly more discretion over breaks than the public administration, and twelve industries grant significantly less. For work hours, seven industries grant significantly less discretion, and four industries grant significantly more discretion than the public administrations. All in all, there is actually very little difference between public administrations and other employers: when the twenty-four industry dummies are replaced with a public administration dummy, the coefficient for that dummy is not significant for any of the discretion variables except order (negative coefficient) and breaks (positive coefficient). Moreover, in these two cases the estimated changes in probability

[15] Controlling for the other explanatory variables, only three out of twenty-four industries grant significantly less discretion over order and speed than the public administrations; and only one provides significantly less discretion over methods. Most remaining industries grant the same levels of discretion as the public administrations, and some of them grant significantly more.

are very small (a 3-percentage point reduction for order and a 7-percentage point increase for breaks).

Firm tenure has a positive effect on discretion over the order and methods of work, and job tenure has a positive effect on discretion over methods and speed of work. All other effects are insignificant. Besides, the effects that are significant are very small: the change in probability that results from a 9-year increase in firm or job tenure (which corresponds approximately to one standard deviation) is just a 1–2 percentage point increase. These positive coefficients may reflect firm- and job-specific human capital accumulation that enhances ability and therefore leads to greater levels of discretion. Age has a small positive coefficient, which is significant for discretion over order, methods, and breaks, but age^2 has a negative coefficient. Thus, the change in probability due to a 1 standard deviation increase in age (about 11 years) is negative for discretion over order and methods and positive for discretion over breaks. In any case, the effects are always very small in absolute value (less than 2 percentage points).

The interaction term between job tenure and firm tenure has a negative effect on order, methods, and speed, and no significant effect on the other two measures of discretion, which are more related to schedules. I have conducted several tests to understand whether the interaction term is a good proxy for ability. First, I estimate the logits of Table 3 separately for each one-digit occupation. Given that more able employees should belong to higher-level occupations, I expect the coefficient of the interaction term to be smaller in these regressions (i.e., ability should be less important within occupations than across occupations). I find that the interaction term is in most cases insignificant within occupations.[16] Second, I estimate the logits of Table 3 with different sets of controls for the employee's position in the organization. If employees of greater ability have higher positions in the organization, and the interaction term is a good proxy for ability, then its coefficient should increase when the employee's position is less thoroughly controlled for. Specifically, I estimate three variants of the model: a first variant with the subordinate dummies and one-digit (instead of two-digit) occupational dummies; a second one with the subordinate dummies and no occupation dummies; and a third variant with neither subordinates nor occupational dummies. Whereas in the baseline specification (Table 3) the interaction term is significant only for the order and methods of tasks, in

[16] In the estimations referring to the order of tasks, there is only one occupation (skilled agricultural workers) out of ten for which the interaction term is significant; and in the estimations for the methods of work the interaction term is significant within five occupations. In the regressions on speed, breaks, and work hours, the interaction terms are significant for only two, three, and one occupation respectively.

variants one and two it is significant also for the speed of work, and in variant three it is significant for all measures of discretion except one (breaks).

I have also checked whether the interaction term could be capturing something other than ability. One possibility is that employees with longer job tenure are people who particularly like their current job and hence do not want to change. However, this interpretation does not explain why the interaction term has a negative coefficient: if employees like to have discretion, it should be positive. Another possibility is that longer job tenures are due to discrimination. That could explain why the coefficients for the interaction term are negative: if employees with longer job tenure are those who are being discriminated against, and employees enjoy having discretion, longer job tenure must have a negative effect on discretion. This possibility can be tested using question 31 of the EWCS, which tells us whether the respondent has suffered different types of discrimination within the last year. I use this question to construct six dummies, each for one type of discrimination and, based on this information, I conduct several tests (to save space, tables are omitted). First of all, I test whether the interaction term is positively correlated with these dummies, and I find that all but one (the correlation with the age discrimination dummy) are negative. In addition, I compute the correlation between sexual discrimination and the interaction term for female employees only, and the correlation between age discrimination and the interaction term for different age groups. As far as sexual discrimination is concerned, I still find a negative correlation when the sample is restricted to female employees. However, for age discrimination I do find a negative correlation for older employees and a positive one for younger employees. Second, I compute the correlations between the discrimination dummies and the interaction term conditional on job tenure and firm tenure. I regress the interaction term on job tenure, firm tenure, a measure of discrimination, and a constant. I estimate this model for the six discrimination types. In all cases except one (age discrimination), the coefficient of discrimination is insignificant. For age discrimination the coefficient is positive and significant, but becomes insignificant when age and age^2 are introduced in the regression. Finally, I test whether the negative coefficient of job tenure $\times$ firm tenure is robust to the introduction of different discrimination controls in the Table 3 logits. I try three different specifications, all of which include the index for discrimination in the establishment and, in addition, the dummy variables for discrimination against the respondent,[17] but I see no change in the sign or significance of the job tenure firm tenure coefficient.

[17] I estimate three different variants. In the first one I just add the index of discrimination against the respondent; in the second one I add the six dummies measuring different types of discrimination against the respondent; and in the last one I add an interaction term between the female and sexual discrimination dummies.

To sum up, although alternative explanations of the interaction term based on job matching and discrimination are sound, I find very limited evidence to support them.

The female dummy has a negative coefficient in the regressions for speed, breaks, and hours (in the other regressions the coefficient is not statistically significant). The female dummy reduces the probability of discretion over speed and hours by 3–5 percentage points, and it reduces the probability of discretion over breaks by 9 percentage points. Controlling for sex, household size does not have any significant effect on discretion, and the number of small children has an insignificant or even negative effect on discretion. The interaction term between the female dummy and household size has a positive coefficient in the regressions for breaks and hours. I have also estimated other specifications with more interaction terms as explanatory variables (female × children, female × household size, and age × children), but none of those were significant. In addition, I have used other family-related explanatory variables: two dummies for whether the respondent is the main income earner in the household or the main person responsible for housekeeping, and interactions of those two dummies with the female dummy. The coefficients of all these variables are insignificant in the regressions for the order, methods, and speed of work. Moreover, in the regression for breaks, female × housekeeper has a negative coefficient, and the coefficients for the other three variables are insignificant. In the regression for work hours, being the main income earner has a negative effect on discretion, and being the main housekeeper has a positive effect, but female × housekeeper has a negative coefficient, which is larger in absolute value than the housekeeper coefficient.

When I estimate logit equations separately for men and women, I find that the effect of the family-related variables (number of children, household size, and the dummies for being the main income earner or housekeeper) is insignificant in most cases (see Table 4). Thus, in the regressions for order, methods, and breaks, the coefficients of these four variables are insignificant for both men and women. In the regression for the speed of work, these variables are insignificant for men. For women, the size of the household and the dummy for housekeeping have a positive effect on discretion over speed, but the number of children has a negative effect and being the main income earner has no significant effect. In the regression for work hours, the four variables are insignificant for women whereas, for men, being the main income earner and being the main housekeeper have a negative and a positive effect, respectively.

I have also decomposed the male–female discretion gap using a specific technique for nonlinear equations (Fairlie 1999, 2005) although, to save

TABLE 4

LOGITS FOR EMPLOYEE DISCRETION, BY SEX

	Order	Methods	Speed	Breaks	Hours
Women					
Children	–0.035	–0.038	–0.141***	–0.024	0.013
	(0.050)	(0.051)	(0.049)	(0.047)	(0.046)
	[–0.007]	[–0.007]	[–0.028]	[–0.006]	[0.003]
Household size	–0.030	–0.047	0.091**	0.040	0.027
	(0.039)	(0.039)	(0.039)	(0.036)	(0.036)
	[–0.008]	[–0.011]	[0.023]	[0.013]	[0.008]
Main income earner	–0.012	–0.074	0.059	0.088	–0.110
	(0.074)	(0.076)	(0.072)	(0.069)	(0.068)
	[–0.002]	[–0.014]	[0.012]	[0.022]	[–0.026]
Housekeeper	–0.084	–0.093	0.162*	–0.114	–0.060
	(0.098)	(0.100)	(0.093)	(0.091)	(0.089)
	[–0.017]	[–0.017]	[0.034]	[–0.028]	[–0.014]
Number of observations	5,508	5,502	5,486	5,506	5,490
Pseudo R^2	0.112	0.102	0.060	0.119	0.078
Estimated probability	0.718	0.746	0.713	0.535	0.397
Men					
Children	0.013	–0.022	–0.025	–0.002	–0.017
	(0.045)	(0.046)	(0.045)	(0.043)	(0.043)
	[0.003]	[–0.004]	[–0.005]	[–0.004]	[–0.004]
Household size	–0.009	–0.025	–0.015	–0.030	0.029
	(0.035)	(0.036)	(0.035)	(0.034)	(0.034)
	[–0.002]	[–0.006]	[–0.004]	[–0.009]	[–0.010]
Main income earner	0.064	–0.045	–0.045	–0.006	–0.172**
	(0.091)	(0.092)	(0.090)	(0.086)	(0.086)
	[–0.013]	[–0.009]	[–0.009]	[–0.001]	[–0.042]
Housekeeper	0.021	–0.067	0.026	0.081	0.196***
	(0.079)	(0.079)	(0.078)	(0.075)	(0.073)
	[0.004]	[–0.013]	[0.005]	[0.018]	[0.048]
Number of observations	6,423	6,422	6,393	6,429	6,415
Pseudo R^2	0.141	0.114	0.059	0.093	0.111
Estimated probability	0.704	0.737	0.734	0.661	0.417

NOTE: The table reports estimated coefficients, standard errors (in parentheses), and changes in probability (between brackets). Levels of significance: 1 percent (***), 5 percent (**) and 10 percent (*). Changes in probability are estimated as in Table 3. In addition to the four variables reported in the table, all regressions include the following explanatory variables: teamwork, job rotation, vertical communication, improvement, performance pay, 3 subordinates dummies, 7 establishment size dummies, firm tenure, job tenure, firm tenure × job tenure, age, age^2, discrimination in establishment, women's participation, a constant term, 24 industry dummies and 26 occupation dummies.

space, these tables are omitted. I find that the number of subordinates always contributes positively to the gap because women usually have fewer subordinates and therefore less discretion than men. In contrast, occupation and industry always contribute negatively to the gap, which suggests that women work in industries and occupations where employees are given

greater discretion. Two other sets of variables—high-performance work practices and establishment size—contribute significantly to the gap. Women participate less in high-performance work environments than men and have therefore relatively less discretion, but on the other hand women work in smaller establishments, which contributes to their having greater discretion than men. Male–female differences in tenure and age do not significantly contribute to the discretion gap. Finally, the unexplained part of the gap is always positive: with male coefficients, women would have more discretion than they actually have. This is consistent with discrimination but may also be due to other reasons such as unobserved heterogeneity. Moreover, the results indicate that the gap cannot be attributed to male–female differences in observables. In fact, the occupational and industry structure of the female labor force would imply greater levels of discretion than the ones observed for male employees.

Table 3 also shows the effects of discrimination and the national rate of female labor force participation. The existence of discrimination in the workplace has a negative effect on discretion over speed, breaks, and work hours, but no effect on the other two measures of discretion (order and methods). When logits are estimated separately by sex, I find that the effects on order and methods are insignificant for both men and women, and that the effect on breaks is significant (and negative) for both. The effects on speed and hours, however, are insignificant for men and negative for women. This suggests that women are more subject to discrimination than men. As far as female participation in the labor force is concerned, the effect is positive on all aspects of discretion and, in the separate regressions for men and women, the effects are usually positive for both groups.[18]

Discussion and Conclusions

The view that employers are motivated by performance concerns (hypotheses 1–4) finds strong support in the data. As far as hypothesis 1 is concerned, there are mildly favorable results, since most "high-performance" work practices have a positive influence on discretion, but others have an insignificant or even a negative effect. Thus, vertical communication, work improvement, and performance pay have a positive effect on all measures of discretion. The two remaining work practices—teamwork and job

[18] The only exception is discretion over breaks, where the effect of female participation is positive for men but insignificant for women.

rotation—do not generally have a significant effect on discretion, and when they do, it is negative. Thus, teamwork and rotation have a negative effect on discretion over breaks, and teamwork is negatively related to discretion regarding work methods. The result for teamwork is particularly puzzling, given that teams are considered a keystone of modern work organization, and are often supposed to be self-managed. Hypothesis 2, which contends that employees at higher positions enjoy greater discretion, finds more substantial support in the data: the number of subordinates has a positive effect on all measures of discretion. The main difference is between employees who have no subordinates and those who have some, although I also find a significant difference between employees with more and fewer subordinates. In addition, the occupation dummies show that higher-level occupations are associated with significantly higher levels of employee discretion, which is also consistent with the hypothesis. The data are also consistent with the view that employers give more discretion to employees of higher ability (hypothesis 3), although two qualifications must be made. First of all, this effect pertains only to some aspects of discretion related to work methods (order, methods)—ability has no effect on discretion over the speed of work, breaks, and work hours.

Second, the effect of ability tends to diminish when the employee's job position is more thoroughly controlled for. In particular, ability is usually insignificant within most major occupational groups. This suggests that ability matters more to the extent that higher-ability employees are promoted, thus performing more discretionary jobs. Finally, hypothesis 4, that employees of larger organizations have less discretion, is strongly supported by the data. Establishment size has a negative effect on all aspects of discretion: those primarily related to work methods as well as those that are mostly related to work scheduling.

Evidence on family concerns is rather mixed. The hypothesis that a higher rate of female participation in the labor force has a positive effect on discretion for all employees (hypothesis 5a) is strongly supported by the data, but there is no differential effect for men and women (hypothesis 5b). It is not clear that employees with more compelling family obligations have more discretion to organize their work schedules (hypothesis 6). Controlling for other variables, female employees have less discretion than male employees and, for both men and women, household size and number of children have no significant effect on discretion. Being the main income earner or the main housekeeper, or having a larger household has an insignificant effect on discretion in most cases. These results are even less supportive of hypothesis 6 if we take into account that we are not controlling for sorting: employees with more compelling family obligations may choose jobs that

have more discretion, and in that case we would observe a stronger relationship between family characteristics and discretion. On the one hand, the analysis indicates that women work in smaller establishments and in industries and occupations where discretion levels are relatively higher, which suggests that there could be some sorting. However, sorting can be limited by the fact that discretion is very related to the level of responsibility, which is usually lower for women.

I do not find that larger or public organizations grant more discretion, which contradicts hypothesis 7. Organizational size has a clear negative effect on all types of discretion and, as far as public ownership is concerned, evidence is inconclusive. I find that public administrations grant significantly more discretion over breaks than other employers, but there is no significant difference on discretion over work hours. Hypotheses 8 and 9 are instead clearly supported by the data. Employees whose superiors are more open to suggestions are more likely to enjoy discretion in all dimensions, and particularly over breaks and work hours, which is consistent with hypothesis 8. However, this could also indicate performance rather than family concerns, since hypothesis 1 also predicts a positive effect of vertical communication on discretion. As far as hypothesis 9 is concerned, the data show that discrimination has a negative impact on discretion over breaks and work hours. In addition, the nonlinear decomposition of the male–female discretion gap shows that the unexplained part of the gap is always positive for different measures of discretion, i.e., women would have more discretion if their observable characteristics influenced discretion according to the male coefficients.

The importance of performance concerns is consistent with Osterman (1995), who finds work–family programs to be positively related to high-commitment work practices, and little support for the view that work–family programs are introduced as a practical response to the family needs of employees. There are also some similarities with Wood et al. (2003). Their analysis supports the "organizational adaptation" approach whereby society puts pressure on management to implement work–family policies, but management has some freedom to conform more or less actively to such pressures. In line with these results, I find that employees whose superiors are more open to listen to and to implement suggestions enjoy significantly more discretion than the rest. Moreover, that is true not only for discretion over work scheduling (breaks and hours), but also for discretion over work methods (order, methods, and speed). The finding that discrimination has a negative impact on discretion over work scheduling is also consistent with Wood et al. (2003), who find that firms with equal opportunity policies are more likely to adopt family-friendly management. The positive relationship

between performance pay and discretion is consistent with Nagar (2002); and the finding that women enjoy less discretion than men has been previously obtained by Golden (2001) with United States data.

There are also some differences with respect to previous literature. First, according to Wood et al. (2003), larger organizations and those belonging to the public sector use more family-friendly policies, whereas my analysis indicates that both large and public-sector organizations grant significantly less discretion than the rest. Goodstein (1994) finds that larger organizations are more family friendly, but finds no significant public-sector effect. My analysis does not necessarily contradict those results because those papers measure family friendliness through an index that includes various types of benefits. Because of economies of scale, the cost of offering some of those benefits, e.g., child care, can be smaller for larger organizations; but jobs are still less discretionary in those organizations because, due to large size, more formal controls, rules, and procedures are needed to prevent employees' opportunistic behavior.

Second, whereas most research on work–family issues deals with policies that firms can introduce with no effective change in job design (for example childcare benefits), I study the relationship with discretion as a job design choice. I only find mixed evidence for the hypothesis that firms change job design to help work–family balance. Although the labor force participation of women is positively related to discretion, it is not clear that the employees' family needs have an impact on job design. In fact, male–female differences in industry affiliation and establishment size contribute to increase discretion for females relative to males, but this is largely offset by the fact that women hold lower-level positions and are less involved in HPWS than men.

References

Appelbaum, Eileen, Thomas Bailey, Peter Berg, and Arne Kalleberg. 2000. *Manufacturing Advantage. Why High-Performance Work Systems Pay Off*. Ithaca, NY: ILR Press.

Baker, George, Michael Gibbs, and Bengt Holmstrom. 1994. "The Internal Economics of the Firm: Evidence from Personnel Data." *Quarterly Journal of Economics* 109(November):881–919.

Berg, Peter, Arne Kalleberg, and Eileen Appelbaum. 2003. "Balancing Work and Family: The Role of High-Commitment Environments." *Industrial Relations* 42(April):168–88.

Birkelund, Gunn, Leo Goodman, and David Rose. 1996. "The Latent Structure of Job Characteristics of Men and Women." *American Journal of Sociology* 102(July):80–113.

Doeringer, Peter, and Michael Piore. 1971. *Internal Labor Markets and Manpower Analysis*. Lexington, MA: DC Heath.

Drucker, Peter F. 1973. *Management*. New York: Harper & Row.

Fairlie, Robert. 1999. "The Absence of the African-American Owned Business: An Analysis of the Dynamics of Self-Employment." *Journal of Labor Economics* 17(January):80–108.

———. 2005. "An Extension of the Blinder-Oaxaca Decomposition Technique to Logit and Probit Models." *Journal of Economic and Social Measurement* 30:305–16.
Golden, Lonnie. 2001. "Flexible Work Schedules: Which Workers Get Them?" *American Behavioral Scientist* 44(March):1157–78.
Goodstein, Jerry. 1994. "Institutional Pressures and Strategic Responsiveness: Employer Involvement in Work–Family Issues." *Academy of Management Journal* 37(April):350–82.
Hackman, Richard, and Greg Oldham. 1975. "Development of the Job Diagnostic Survey." *Journal of Applied Psychology* 60(April):159–70.
———, and ———. 1976. "Motivation through Design of Work—Test of a Theory." *Organizational Behavior and Human Performance* 16(2):250–79.
Ichniowski, Casey, and Kathryn Shaw. 1999. "The Effects of Human Resource Management Systems on Economic Performance: An International Comparison of U.S. and Japanese Plants." *Management Science* 45(May):704–22.
———, ———, and Giovanna Prennushi. 1997. "The Effects of Human Resource Management Practices on Productivity." *American Economic Review* 86(June):291–313.
Jackson, Paul, Toby Wall, Robin Martin, and Keith Davids. 1993. "New Measures of Job Control, Cognitive Demand, and Production Responsibility." *Journal of Applied Psychology* 78:753–62.
Karasek, Robert. 1979. "Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign." *Administrative Science Quarterly* 24(June):285–308.
Meyer, John, and Brian Rowan. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony." *American Journal of Sociology* 83(September):340–63.
Mills, Cheryl, Ellen Thrasher, and Erika Fischer. 2004. *An Introduction to the U.S. Small Business Administration*. http://www.sba.gov/aboutsba/SBAOverviewEnglish1.pdf, accessed May 16, 2004.
Mintzberg, Henry. 1979. *The Structuring of Organizations. A Synthesis of Research*. Englewood Cliffs, NJ: Prentice-Hall.
Moers, Frank. 2006. "Performance Measure Properties and Delegation." *The Accounting Review* 81(July):897–924.
Nagar, Venky. 2002. "Delegation and Incentive Compensation." *Accounting Review* 77(April):379–95.
Observatory of European Small and Medium-Sized Enterprises. 2002. *SMEs in Europe, Including a First Glance at EU Candidate Countries*. Luxembourg: Office for Official Publications of the European Communities.
Osterman, Paul. 1994a. "How Common is Workplace Transformation and Who Adopts It?" *Industrial and Labor Relations Review* 47(January):173–88.
———. 1994b. "Supervision, Discretion, and Work Organization." *American Economic Review* 84(May): 380–4.
———. 1995. "Work/Family Programs and the Employment Relationship." *Administrative Science Quarterly* 40(December):681–700.
———. 2000. "Work Reorganization in an Era of Restructuring: Trends in Diffusion and Effects on Employee Welfare." *Industrial and Labor Relations Review* 53(January):179–96.
Paoli, Pascal, and Damien Merllié. 2001. *Third European Survey on Working Conditions 2000*. Dublin, Ireland: The European Foundation for the Improvement of Living and Working Conditions.
Parker, Sharon. 2003. "Longitudinal Effects of Lean Production on Employee Outcomes and the Mediating Role of Work Characteristics." *Journal of Applied Psychology* 88(August):620–34.
———, and Toby Wall. 1998. *Job Design and Work Design: Organizing Work to Promote Well-Being and Effectiveness*. Thousand Oaks, CA: Sage.
Petersen, Trond. 1985. "A Comment on Presenting Results from Logit and Probit Models." *American Sociological Review* 50(February):130–1.
Saxenian, AnnaLee. 1994. *Regional Advantage. Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
Seltzer, Andrew, and David Merrett. 2000. "Personnel Policies at the Union Bank of Australia: Evidence from the 1888–1900 Entry Cohorts." *Journal of Labor Economics* 18(October):573–613.

Singh, Jagdip. 2000. "Performance Productivity and Quality of Frontline Employees in Service Organizations." *Journal of Marketing* 64(April):15–34.
Williamson, Oliver E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: The Free Press.
Wood, Stephen, Lilian de Menezes, and Ana Lasaosa. 2003. "Family-Friendly Management in Great Britain: Testing Various Perspectives." *Industrial Relations* 42(April):221–50.
Zoghi, Cindy, Alec Levenson, and Michael Gibbs. 2004. "Why Are Jobs Designed the Way They Are?" Unpublished manuscript.