



The new lumpiness of work: explaining the mismatch between actual and preferred working hours

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ABSTRACT

This article deals with the puzzle of the well-known gap between actual and preferred working hours (i.e. over-employment). We propose a new explanation based on selective attention in decision making and test it with the Time Competition Survey 2003 which includes information of 1114 employees in 30 Dutch organizations. We find very limited support for the hypotheses that over-employment is caused by restrictions imposed by the employer (*traditional lumpiness*). Instead, we find much empirical support for our hypothesis on *a new form of lumpiness* that is related to selective attention and is created by work characteristics of 'post-Fordist' job design. In this work organization, the increased autonomy of workers is leading to an *autonomy paradox*. We also find evidence of a *part-time illusion*: under the post-Fordist regime, many part-time employees, who obviously were willing and allowed to reduce their working hours, still end up working more hours than they prefer.

KEY WORDS

framing theory / over-employment / overtime / post-Fordist workplace / social rationality / working hours

Introduction and research questions

In most European countries employees spend more hours at work than they say they would prefer to work. Even when a reduction in income is taken into account a large part of the working population would prefer to work fewer hours than the actual length of their working week (Bielenski et al., 2002; Böheim and Taylor, 2004; Fouarge and Baaijens, 2003; Messenger, 2004; Plantenga et al., 1999; Smulders and De Feyter, 2001; Stewart and Swaffield, 1997). Although many studies have shown the phenomenon of over-employment, there have been few attempts to gain more insights into the work organization that could account for this. Is over-employment mainly brought about by employers who refuse to offer the employee a reduced-hours contract? Or do employees somehow fail to take the opportunities to meet their preferred working hours offered to them by flexible working time arrangements? In the light of the current policy debate on working hours across Europe these are important questions. The aim of this article is to untangle the puzzle of the well-known gap between actual and preferred working hours (i.e. over-employment) by examining job designs that make work particularly 'time-greedy'.

The most established explanation for over-employment can be found in the economic literature. In the standard model of labour supply, it is assumed that preferred working hours of employees are determined by their optimal combination of income and leisure-time. However, labour demand restricts employees in their choice of working hours (Altonji and Paxson, 2001; Böheim and Taylor, 2004; Euwals and Van Soest, 1999; Golden, 2004; Kahn and Lang, 1995; Rebitzer and Taylor, 1995; Reynolds, 2003). For the purpose of low adjustment costs and return on investments in human capital, employers have an incentive to hire employees only for a substantial number of hours and the employee often must just 'take it or leave it'. Given the costs of finding another job, the opportunities to be appointed in a position with exactly the preferred working hours are limited. This so-called 'lumpiness' of labour demand thus explains why actual working hours deviate from what employees prefer (Hamermesh and Pfann, 1996; Pencavel, 1986). However, in contemporary labour markets this explanation holds less and less. The standard working week is on the way out and flexible working-time arrangements are on their way in.

The Dutch labour market seems a particularly good example of the decreasing lumpiness in labour demand. The Netherlands is known for its high percentage of part-time jobs. The time spent at work increased in the last decade, mainly due to the growing number of women participating, mostly part time, in the labour-market (SCP, 2001). This has resulted in an increased need to combine work and care and that, in turn, has led to the introduction of the *Wet Aanpassing Arbeidsduur* (Working Hours Adjustment Act) in 2000. This law gives employees the right to reduce or increase their contractual working hours, unless this puts the interests of the company seriously at risk. However, research conducted two years after the implementation of the law shows that for approximately one quarter of Dutch employees, actual and

preferred working hours still do not match (Fouarge and Baaijens, 2003). The question is why employees do not take this opportunity to work the hours they prefer.

Until now most research has focused on describing the facts and figures on the gap between actual and preferred working hours. Some attempts have been made to untangle the employees' reasons for not reducing their working hours (Clarkberg and Moen, 2001; Fouarge and Baaijens, 2003; Reynolds, 2003; Spaans, 1997). However, there have not been many large, theory-driven data collections with all the relevant information on job characteristics to test these hypotheses. Therefore, the reason for the disjunction between actual and preferred working hours remains little understood. In this article we try to find an explanation for the gap between actual and preferred working hours and test the hypotheses with data on 1100 employees in 30 organizations.

Explaining over-employment

Over-employment poses something of a paradox. Assuming that people are not completely passive victims of circumstance, one would expect that they must have some hand in deciding how much they work and, consequently, preferred hours should equal actual hours. An obvious explanation for some cases of over-employment is that working time may be 'lumpy', that is people are structurally obliged to work more than they wish. However, as mentioned above, this explanation holds less and less in contemporary labour markets. An alternative explanation of why people may work more hours than they prefer comes from a 'social rationality' approach. This approach is based on goal-framing theory, that is, on the idea that social circumstances heavily influence how people make decisions, what they pay attention to, what they include in their decision making and what they fail to consider (Lindenberg, 2001). The crucial question in this approach is: what is the influence of job characteristics on the focus people have in making their choices? When employees are directly asked how many hours they would prefer to work given their hourly wage, the answer supposedly reflects their optimal combination of leisure-time and income. However, it is not likely that employees experience this choice in daily working life. For example, employees may face the choice between finishing a particular task before the deadline or running the risk of being judged negatively, being a good team-mate or letting others down, getting that promotion or being passed by another colleague, and so on. Thereby they will not weigh the benefits of the additional hours against the costs in free time. Rather, working additional hours is likely to be the cumulative effect of small decisions, each of which is unrelated to weekly working hours. This process creates *cumulation goods*, that is goods (or bads) about which one never made a decision and which still are the product of one's decisions (Kahn, 1966; Lindenberg, 1986). In other words, it is likely that employees will not *frame* the situation as a choice between income

and leisure, and consequently the outcome of the decision may deviate from their preferred working hours.

Since circumstances influence what people focus on in making their decisions, the likelihood of being over-employed will differ between work organizations. Recent case-studies suggest that the so-called 'post-Fordist' workplace (see below for a more precise description) is particularly 'time-greedy' (Landers et al., 1996; Lewis, 2003; Perlow, 1999). For example, Lewis (2003) points out in a study of the accountancy profession that employees are mainly focused on being a 'real professional', including constant availability and high-quality service to clients. Perlow (1999) describes an organization in which employees work in project teams and where finding solutions to bring a difficult project to a good end and helping out colleagues are considered commendable behaviour. Thus, with regard to their tasks, employees are mainly focused on being professional in the eyes of their colleagues and clients. Not paying attention to individual time limits is likely to be used by the management as an indicator for commitment and capability (Landers et al., 1996). This may be the reason that employees who work part time have far fewer career opportunities than their full-time colleagues (Román et al., 2004; Smithson et al., 2004). When competition is severe, this may even lead to a 'rat-race' in which employees who work less actually perform below standard (Clarkberg and Moen, 2001; Schor, 1992; Stewart and Swaffield, 1997).

For the purpose of this study, let us briefly summarize what could be defined as the post-Fordist job design, which, as Perlow writes in an in-depth study of this phenomenon (1998: 331), is becoming more common in one occupation after another. Literature suggests that an important characteristic of the post-Fordist job design is that the responsibility for attaining production goals is further shifted to the worker (Cappelli et al., 1997; Glebbeek and Van der Lippe, 2004; Sennett, 1998). Organizing occupations in this way is characterized on the one hand by much autonomy for the employee and by interesting tasks. The job does not need to be performed at fixed hours and locations and the employee can decide where and when to work. On the other hand, job security depends more heavily on performance than before and predictable career paths give way to more uncertain and competitive promotion systems (Arthur and Rousseau, 1996). Employees work in project teams, and strict deadlines and targets are imposed. Not attaining these targets has serious consequences for (social) rewards and may even lead to losing the job. It is likely that learning opportunities in these jobs, and thus the employees' productivity, increase with the number of weekly working hours.

How does this affect what people focus on in making their decisions? We expect that this form of work organization shifts the focus of the employee from working a certain number of hours, to bringing a project to a good end or finishing a particular task before the deadline. Strengthened by the competitive reward-system, showing absolute dedication and commitment to the job will be more important in post-Fordist work than in the traditional workplace. It is likely that employees are mainly focused on tasks and on finishing projects and

not on the number of hours in their daily working life. Thus we expect that job-characteristics lead employees to make decisions about their involvement in work, in which the choice between income and leisure-time is shifted to the background. Working additional hours is the cumulative effect of many small decisions to just finish this task, call that client or help a desperate colleague.

When employees realize the cumulative effect, they may decide to reduce their contractual hours. This, however, may not lead to the desired result. Employees may find themselves in a situation in which the employer was happy enough to reduce the contractual hours (and salaries), but in order to perform well it may again be hard to stick to the reduced working hours. Even for part timers, who deliberately have chosen to work fewer hours, certain work characteristics are likely to turn their focus to finishing their tasks and showing commitment, eventuating in undesired (and unpaid) additional hours. In fact, for employees in these circumstances it may be economically wiser not to reduce their official working hours, because they know, or should know, that they will turn up to work the hours anyway. The result is a new form of lumpiness: the employer does not forbid adjustment of the working time, but the circumstances make work come in 'lumps' of tasks that undermine the choice between income and leisure time that flexible arrangements allow in principle. Therefore, the outcome of the workers' choices may deviate from their preferred combination of income and leisure time.

Hypotheses

Based on the theoretical approaches in the previous section, two clusters of determinants of over-employment can be distinguished:

- 1) *The traditional lumpiness of work*, in which over-employment is primarily caused by restrictions imposed by the employer. Following the economic theory of labour supply, we expect that the higher the official barriers to reducing working hours, the higher the likelihood of being over-employed. However, with an eye on the contemporary flexibility of the labour market, we expect the occurrence of such restrictions to be the exception rather than the rule.
- 2) *The new lumpiness of work*, in which over-employment is primarily caused by job characteristics that influence what employees focus on in making their choices with respect to their involvement in work. We derived two hypotheses from this social rationality approach:
 - a) *The autonomy paradox*: The more employees work under the conditions of the post-Fordist work organization (including their freedom to choose their working time), the more they focus on finishing tasks and showing commitment, and the less they take income and leisure time into their consideration when deciding on their involvement in work. We hypothesize thus that the dynamics of the post-Fordist workplace increase the likelihood of being over-employed.

- b) *The part-time illusion*: We hypothesize that under the post-Fordist regime, part-time employees, who obviously were allowed to adjust their working hours to their preferences, still end up working more hours than they prefer. Although they have chosen deliberately to have less income in order to gain more leisure time, they are subjected to the same mechanisms as full-time employees. We thus expect that the circumstances in post-Fordist workplaces increase the likelihood for even part timers to be over-employed.

Methods

Data

The Time Competition Survey 2003 is used for testing the hypotheses. These data were collected by means of a multi-stage sample of 1114 Dutch employees and, if applicable, their partners, from 30 employing organizations in the Netherlands (Glebbeek and Van der Lippe, 2004). The information on job characteristics and incentive structures (on the occupational level), undoubtedly crucial for our analysis, was mainly attained from the management of these organizations. To this end, in every organization two to four 'occupational groups' were selected. Within these groups, the employees were homogeneous with regard to their level of autonomy, the extent in which the work has to be done in fixed hours and locations, and conditions of employment. In total 89 different occupational groups were selected. The management completed written questionnaires both on the organization in general and on the occupational groups in particular. Furthermore, employees were questioned by face-to-face interviews and written questionnaires. The hierarchical structure of the data makes it possible to disentangle subjective feelings of time pressure, as expressed by the employee, and objective characteristics of the workplace, as described by the employer. In order to have sufficient information to test the hypotheses on the time-greediness of workplaces, we over-sampled knowledge-based organizations because we expected these dynamics to occur especially in these firms. In this respect the dataset is not meant to be completely representative for the Dutch population.

Measures

Over-employment

Employees were asked how many hours they normally work in a week (overtime included, travelling time excluded), and how many hours they prefer to work in a week, given their hourly income and the income of their partner (if any). Over-employment was defined by whether an employee works more hours

Table 1 Number of items, sample sizes, ranges, means and standard deviations of variables

	Number of items	N Level 2	N Level 1	Minimum value	Maximum value	Mean	Standard deviation
Official barriers	1	75	926	0	1	0.2	0.4
Post-Fordist work organization	8	86	1087	-0.7	1.3	0.0	0.7
Autonomy	10	86	1087	1.7	5.0	2.9	0.6
No boundaries	6	89	1114	-1.4	1.7	0.0	0.7
Possibility to build a personal reputation	7	86	1087	-1.2	1.7	0.0	0.7
Possibility for personal development	5	86	1087	1.6	4.8	3.4	0.6
Time dependent performance	1	83	1067	0	1	0.7	0.5
Work in project teams	1	85	1084	1	5	3.1	1.2
Working with strict deadlines	4	86	1087	1.5	4.5	3.2	0.7
Competitive dismissal procedure	4	85	1072	1	4	2.4	0.8
Educational level	1		1114	1	11	7.9	2.2
Understaffing	1	81	998	0	1	0.3	0.4
Supervisory position	1		1114	0	1	0.4	0.5
Age	1		1103	18	63	40.9	9.0
Sex (0 = male, 1 = female)	1		1111	0	1	0.5	0.5

than preferred (0 = works preferred hours, 1 = works more hours than preferred). Employees who work fewer hours than they prefer (8% of the respondents) are not included in the analyses.

Official barriers

The official barrier to reduce working hours was measured by asking the employer whether it is possible to reduce working hours up to 20 percent (1 = no problem, 2 = possible but undesirable, 3 = discouraged, 4 = impossible). Because of the small numbers in some categories, we dichotomized the variable into 0 (no problem) and 1 (undesirable, discouraged or impossible).

Post-Fordist work organization

We determined for each of the 89 occupational groups the level of 'Post-Fordism'. To do so, we measured eight aspects of job design and the way work is organized (see Table 1 for an overview), each consisting of one or more items. The eight subscales appeared to cluster strongly; the internal consistency reliability of this scale (Cronbach's alpha) is 0.85. This indicates that these aspects often go together within jobs and, thus, that there clearly is a composition of work arrangements that can be denoted as the 'post-Fordist work organization'. It is possible to measure this more or less 'post-Fordist' way of organizing on one scale with eight subscales:

- 1) *Autonomy*. The employer indicated to what extent employees make their own decisions with regard to ten aspects of their work (1 = others decide, 5 = employee decides). Sample items were: 'Working time', 'Working speed' and 'Content of the work'. The internal consistency reliability (Cronbach's alpha) of the scale is 0.81.
- 2) *No boundaries*. We measured whether employees (could) perform their work outside the office and the office-hours by means of a scale of six (standardized) items. This scale has an internal consistency reliability (Cronbach's alpha) of 0.83. Three items were answered by the employer and three items were measured at the individual level. For the latter we used the mean per occupational group. Sample items were: 'Do employees work at the location of the client?' and 'I can take my work home'.
- 3) *Personal reputation*. We measured the possibilities to build a personal reputation with a scale of seven (standardized) items answered by the employer, with an internal reliability coefficient (Cronbach's alpha) of 0.74. Sample items were: 'To what extent is it possible for employees to demonstrate their performances within their professional group?' and 'In this group employees derive motivation from building a personal reputation'.
- 4) *Personal development*. To measure whether the employee has learning opportunities and the extent to which the work is stimulating and interesting, we applied a five-item scale, answered by the employer. The internal consistency reliability coefficient (Cronbach's alpha) is 0.80. Sample items were: 'To which extent are employees encouraged to follow courses?' and 'To which extent are employees encouraged to accept challenging assignments?' (1 = almost not, 5 = very much).
- 5) *Time-dependent performance*. This was measured by showing the employer in graph form four possible relationships between the number of hours worked (with a maximum of 60 hours a week) and the productivity per hour: (1) a negative relationship (people get tired); (2) no relationship (a flat line); (3) an optimum (a positive relationship, but a decrease after a substantial number of hours); (4) a linear positive relationship. A linear positive relationship or optimum was coded 1 (for 758 employees within 50 occupational groups) and a negative or no relationship was coded 0 (309 employees within 33 occupational groups).
- 6) *Project teams*. The employer was asked to what extent the group works in project teams (1 = almost not, 5 = very much).
- 7) *Deadlines*. The occurrence of deadlines was measured with a four-item scale, answered by the employer. The internal consistency reliability (Cronbach's alpha) is 0.77. Sample items were: 'To what extent do employees work with strict deadlines?' and 'To what extent do employees work with personal targets?' (1 = almost not, 5 = very much).
- 8) *Competitive dismissal*. This was measured on a scale of four items, denoting the consequences of not meeting the standards of relative performance. The items were answered by the employer. Sample items were: 'A reason for dismissal is: having no career opportunities within the organization'

and 'A reason for dismissal is: when the employee is not one of the best performers' (1 = almost not, 5 = very much). This scale has an internal consistency reliability (Cronbach's alpha) of 0.78.

Control variables

First, we controlled for the level of *understaffing* (0 = overstaffing or balance, 1 = understaffing), which was judged by the employer, because, independent of the way in which work is organized, a lack of personnel may increase the workload that is imposed on the employee and increase the barriers to reduce working hours. Twenty-eight percent of the employees work in a situation of understaffing. Second, we included whether an employee has a *supervisory position* (0 = no, 1 = yes), since earlier research shows that being a manager increases the likelihood of over-employment (Fagan, 2001). Third, we controlled for *educational level* (11 categories, varying from no preliminary education to MD, PhD). Higher educated employees will work more often in post-Fordist workplaces. We are mainly interested in the effects of the way work is organized, independent of the educational level of the employee. By keeping constant for education we are able to distinguish between the effects of this individual characteristic and the influence of the circumstances in which the employee works. In our data more than one-third of the employees hold a university degree and almost a quarter are educated at the higher vocational level. The high number of higher educated employees reflects our over-sampling of knowledge-based organizations. Furthermore, we controlled for *age* (continuous variable) and *sex* (0 = male, 1 = female). Some studies show that older employees prefer to work less while younger employees would like to have more working hours (Smulders and de Feyter, 2001), and that males are found to have a higher likelihood of being over-employed than females (Plantenga et al., 1999). We must take care to prevent these demographic characteristics producing artificial results. In our data 48 percent of the employees are female. We also performed analyses with age squared to check for possible curvilinearity, but this had no influence on the results and is left out in the final analysis.

Analysis

Because the dependent variable is dichotomous (whether or not an employee is over-employed), a logistic regression model was estimated. Because of the hierarchical structure of the data, a normal logistic regression design would lead to estimation errors. Therefore we employed multi-level techniques (e.g. Snijders and Bosker, 1999). For this aim, the software MLwin was used (Goldstein et al., 1998). In these analyses, employees form the level-1 units, occupational groups within organizations the level-2 unit, and organizations the level-3 unit. We first estimated an empty model (1), which represents variation in the intercept. We then entered the predictor variables as fixed effects in the following

order: (2) sex and age, (3) official barriers, (4) supervisory position, educational level and understaffing, and (5) post-Fordist work organization. In model (6) we selected part-time employees (32 hours a week or less). All predictors (except the binary ones) were standardized. The resulting estimated parameters in the fixed part can be tested by dividing the regression coefficient by its standard error. When the estimation is based on a large number of cases, this ratio has approximately a standard normal distribution (see Snijders and Bosker, 1999). Because our hypotheses are one-sided, we used one-tailed tests and *p*-values. To estimate the explained proportion of variation (R^2), we used the measure recommended by Snijders and Bosker (1999: 225). In the interpretation of the R^2 value it should be kept in mind that for logistic regression such values are known to be usually considerably lower than the familiar ordinary least squares R^2 values obtained for predicting continuous outcomes.

Results

The incidence of over-employment

Table 2 gives a description of the incidence of over- and under-employment in our data. Almost a third of the employees would prefer a contract with fewer weekly working hours than they have at the moment. This is somewhat higher than the percentage which has been found in earlier research in the Netherlands (Fouarge and Baaijens, 2003), which may be due to the over-sampling of knowledge-based organizations in our data (see methods section). However, when we define over-employment as the difference between the number of hours employees *actually* work and their preferences, it appears that more than 60 percent of the employees are over-employed. They thus spend more time at work within and above their contractual hours than they would prefer.

Table 3 presents correlations for the dependent and independent variables. Let us first briefly take a look at the general characteristics of employees who opt for fewer working hours. Female employees are less often over-employed than male employees ($r = -.14$). This might be typical for the Dutch situation, in which part-time jobs are common for women but less so for men (SCP,

Table 2 Percentage of employees who prefer to work more or fewer hours in comparison to their actual and contractual weekly working hours ($N = 1113$)

	<i>Preference compared to contractual hours (n)</i>	<i>Preference compared to actual hours (n)</i>
Wants to work more	15 (169)	8 (88)
As preferred	53 (591)	30 (338)
Wants to work less	32 (353)	62 (687)

Table 3 Zero-order correlations analyses between the variables

Variable	1	2	3	3a	3b	3c	3d	3e	3f	3g	3h	4	5	6	7	8
1 over-employment																
2 official barriers	.06															
3 post-Fordist work organization	.24	.04														
3(a) autonomy	.13	.30	.54													
3(b) no boundaries	.23	.02	.85	.59												
3(c) personal reputation	.22	.08	.78	.45	.78											
3(d) personal development	.14	.10	.71	.26	.47	.52										
3(e) time-dependent performance	.18	-.11	.48	.15	.35	.25	.34									
3(f) project teams	.19	-.03	.73	.21	.65	.65	.56	.30								
3(g) deadlines	.21	-.09	.84	.31	.67	.59	.51	.39	.60							
3(h) competitive dismissal	.11	-.22	.59	.09	.32	.27	.37	.44	.23	.59						
4 understaffing	-.06	.00	-.15	-.06	-.30	-.35	.04	.20	-.22	-.29	.07					
5 supervisory position	.15	.12	.13	.14	.12	.03	.12	-.02	.09	.08	.02	-.01				
6 educational level	.23	.14	.49	.41	.60	.55	.20	.29	.38	.38	.15	-.23	.11			
7 age	.03	.09	-.21	-.04	-.12	-.20	-.23	-.11	-.12	-.18	-.22	.05	.13	-.14		
8 sex (0 = male, 1 = female)	-.14	.02	-.29	-.17	-.20	-.12	-.18	-.27	-.16	-.23	-.23	-.06	-.19	-.09	-.06	

Note: Correlations significant at the .01 level are indicated by the use of bold.

2001). Obviously men and women differ in the jobs they occupy: women tend to be less educated, less likely to have a supervisory position and to work less often in post-Fordist workplaces. We do not find an association between age and the likelihood to have an hours mismatch, although those who are near the age of retirement seem to have a higher chance of working more hours than they prefer. Over-employment increases significantly with educational level ($r = 0.23$). The typical over-employed employee thus seems to be a higher educated male in his late fifties.

The role of official barriers in reducing working hours

One explanation for the gap between preferred and actual working hours is that employers do not leave employees much choice in deciding how many hours they work (the traditional lumpiness of work hypothesis). In our data we do not find much evidence for the unwillingness of employers to reduce working hours. For almost 80 percent of the employees, the employer declares that reducing working hours up to 20 percent is *not a problem* at all. In the other cases employers discourage a reduction in working hours or find it undesirable for a particular group of employees, without precluding it entirely. Men and women do not differ in the official barriers they face (Table 3). One could argue that the information given by the employer on the possibilities to work fewer hours may be biased. We therefore also asked employees whether in their view it possible to reduce working hours. The majority (75%) of the employees who work more than they prefer, state that it is officially not a problem to reduce their working time. Note that our data are not a representative sample of all Dutch organizations, and therefore these restrictions may be more common in the wider population.

Table 4 presents the results of a multilevel logistic regression analysis, which models the probability that an employee works more hours than preferred. The models show how each characteristic affects the likelihood that a worker prefers to decrease his or her hours rather than feels content with them, net of the other variables in the model. Any negative effect indicates that the factor increases the odds of being content with one's hours, and any positive coefficient indicates that the factor increases the odds of having an hours mismatch.

Model 3 in Table 4 controls for sex and age while examining the relationship between the likelihood of being over-employed and the official barriers imposed by the employer. Traditional lumpiness holds that employees who work for an employer who is reluctant to reduce contractual hours are more likely to have an hours mismatch. Model 3 shows that, controlling for sex and age, there is indeed a significant effect of the employers' resistance against a reduction in working time on the likelihood to work more hours than preferred. More specifically, the odds of being over-employed are $100(e^{.49}-1) = 63$ percent higher when employees are confronted with official barriers, net of the other effects. These results thus correspond with earlier support for the lumpiness

Table 4 Multilevel logistic regression with working more hours than preferred as the dependent variable, and work and individual characteristics as independent variables. Standardized coefficients (standard errors). (N: level 3 = 27, level 2 = 72, level 1 = 809, except model 6 in which N = 263)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6 Part-timers
Intercept	.78 (.13)**	1.06 (.15)**	.95 (.17)**	.79 (.18)**	.77 (.16)**	-.33 (.34)
Official barriers			.49 (.27)*	.29 (.25)	.29 (.23)	.45 (.31)
Post-Fordist work organization					.38 (.11)**	.33 (.15)*
Understaffing				-.14 (.24)	-.05 (.20)	.13 (.30)
Supervisory position				.52 (.17)**	.46 (.17)**	.38 (.28)
Educational level				.39 (.09)**	.30 (.09)**	.36 (.17)*
Age		.09 (.08)	.09 (.08)	.11 (.08)	.13 (.08)	.10 (.15)
Sex (0 = male, 1 = female)		-.54 (.17)**	-.54 (.17)**	-.47 (.17)**	-.34 (.17)*	.36 (.35)
Variance level 3	.14 (.13)	.12 (.12)	.16 (.13)	.11 (.09)	.00 (.00)	.00 (.00)
Variance level 2	.25 (.15)	.21 (.14)	.15 (.13)	.04 (.10)	.07 (.07)	.00 (.00)
R ²		.02	.02	.09	.13	.11

** $p < 0.01$; * $p < 0.05$ (one-tailed)

argument of economic theory. However, when we control for educational level and related work-characteristics (Models 4 and 5 in Table 4), we no longer find a significant result for the restrictions imposed by the employer. Thus, for higher-status employees there are indeed somewhat more official barriers to reducing working hours, but their independent effect pales in comparison to the demands from the post-Fordist work organization. Furthermore, there is an additional official barrier effect for sex. An interaction term (not reported) reveals that the effect of official barriers on over-employment is slightly higher for women than for men ($\beta = 0.70$, $p = 0.10$, two tailed). In summary, we certainly find some support for the traditional lumpiness hypothesis. However, the incidence of official barriers in our data is too low to make traditional lumpiness a sufficient explanation for the high percentage of employees being over-employed.

Explaining over-employment by the new lumpiness of work

An alternative explanation for the gap between actual and preferred working hours is the new lumpiness of work. We hypothesized that especially the *post-Fordist work organization* shifts the focus of employees from time considerations to task considerations. Although employees have the autonomy to choose their working hours, their focus on finishing tasks, helping colleagues, showing commitment, and so on, means that they spend more time at work than they prefer (the autonomy paradox hypothesis).

The methods section revealed that the various aspects of post-Fordist work organization can be summarized in one concept. Let us first briefly take a look at the separate aspects of the post-Fordist workplace, the way they correlate among each other, and how they are associated with the dependent variable (see Table 3). The results show that when employees have few boundaries with respect to where and when to perform the work, they also work often in project teams and with strict deadlines. Working with deadlines is strongly associated with competitive dismissal (for example an 'up-or-out rule'), which indicates the importance of these deadlines and the serious consequences of not meeting them. Jobs in which the productivity of employees increases with the number of hours they work, are often characterized by competitive dismissal, which could strengthen the 'time competition' within these organizations. Thus, in the post-Fordist workplace the work itself provides employees with much freedom in working locations and working time, but at the same time they are strictly judged on output and performance. Furthermore, the table reveals that younger and more highly educated men are the typical employees in this kind of organization. Finally, Table 3 shows that all separate aspects of the post-Fordist work organization are positively associated with the likelihood of being over-employed.

Model 5 of Table 4 presents the effects of a post-Fordist job design on the likelihood of being over-employed, controlled for the potentially confounding variables. The data confirm the hypothesis on the autonomy paradox: the model shows a highly significant effect of working under a post-Fordist regime on the likelihood of being over-employed. More specifically, an increase in one standard deviation on this scale increases the odds of an hours mismatch by 46 percent (i.e. an increase of $100[e^{.38}-1] = 46$). Thus, although work is not lumpy in the sense that the employer imposes restrictions on the working time of the employee (we control for official barriers), the post-Fordist way of organizing induces a new form of lumpiness which implies working extra hours. The effect appears to be substantial, even when controlled for other work-related aspects, and in this model is the most important predictor for over-employment next to supervisory position. Holding a supervisory position is clearly even more time-greedy: the odds of an hours mismatch are $100(e^{.46}-1) = 58$ percent higher when the employee has such a position. Interestingly, understaffing is not influential on the gap between actual and preferred working hours. This obvious candidate for explanation of the mismatch gives way to the more subtle influences of the post-Fordist workplace. Finally, we observe that the effect of sex on the likelihood of being over-employed decreases considerably when we add post-Fordist work organization to the model, indicating that women work less often in these kinds of jobs. However, even when controlled for various work-related factors, the odds of a woman being over-employed are still $100(e^{.34}-1) = 40$ percent lower than the odds of a man being over-employed: work-characteristics obviously do not fully explain the sex differences in over-employment. An interaction term (not reported) reveals that the effect on over-employment of working under the post-Fordist regime does not differ between men and women.

Men and women thus react equally to the demands of the workplace and are both subject to the autonomy paradox.

The part-time illusion

We hypothesized that under the post-Fordist regime part-time employees, who were willing and allowed to reduce their working hours, still end up working more hours than they prefer (the part-time illusion hypothesis). In our data 34 percent of the employees have a part-time contract (32 hours per week or less). The likelihood of being over-employed increases with the number of contractual hours. Three-quarters of the employees who work full time would prefer working fewer hours, against half of the employees who work part time. However, *a third* of the part-time employees still work overtime even though they would rather not do so. For the majority (75%) of these employees, overtime is unpaid. This means that they deliberately decided to work (and get paid for) a less than full-time working week (and that their employer was willing to provide a part-time contract), but that in daily practice somehow they are still not able to stick to their preferred working hours.

Model 6 in Table 4 presents the results of a logistic regression analysis for part-time employees. As with the full sample, the likelihood of being over-employed for part-time employees is significantly associated with post-Fordist work organization ($\beta = 0.33$). This indicates that in these regimes, part-time employees are subject to the same mechanisms as their full-time colleagues. Although they deliberately have chosen to have less income in order to gain more leisure time, the post-Fordist job design leads them to work more hours than they wished to work. We believe this to be a very convincing additional confirmation of our 'new lumpiness' hypothesis. It is not unlikely that many full-time employees who are over-employed anticipate this 'part-time illusion' and may therefore be reluctant to reduce their contractual hours even though they would prefer to do so.

Discussion

In this article we have tried to untangle the puzzle of the well-known gap between actual and preferred working hours. For this aim, data were used on 1114 employees in 89 occupational groups within 30 Dutch organizations. More than 60 percent of the employees in our data are over-employed. The question is why they do not adjust their working hours to their preferences. The first hypothesis we tested originates from labour-economic theory and states that over-employment is mainly caused by restrictions imposed by the employer (the traditional lumpiness hypothesis). We found only limited support for this hypothesis. The incidence of official barriers in our data is low, probably due to the increasing flexibility of the labour market in general and the introduction of the 'Working Hours Adjustment Act' for the Netherlands in particular.

We offered an alternative explanation on the basis of a 'social rationality' approach, in which job design and organizational incentives affect the way people make decisions, that is, what they consider or fail to include in their deliberations. For example, when people are judged and rewarded by the satisfactory completion of tasks and projects, they are predicted not to consider the choice between income and leisure time when they decide to finish a task or project. The result is a *new form of lumpiness*: The employer does not forbid adjustment of the working time, but the circumstances mean that work itself comes in 'lumps' of tasks that distract attention away from the choice between income and leisure time that flexible arrangements allow. We hypothesized that the conditions of the post-Fordist workplace, with their greater emphasis on autonomy, increase the likelihood of decision making based on the completion of tasks and projects and therefore of being over-employed (*the autonomy paradox hypothesis*). Employers thus seem to 'transfer' the responsibility for working hours to their 'autonomous' employees. To test this hypothesis we constructed a scale consisting of eight aspects of post-Fordist work organization, and we found that these aspects of job design significantly increase the likelihood of being over-employed. We also hypothesized that under the post-Fordist regime, part-time employees, who were willing and allowed to reduce their working hours, are subject to the same influences and thus work more hours than they prefer (*the part-time illusion hypothesis*). This expectation is borne out for a great number of them. One-third of the part-time employees appeared to work (mostly unpaid) overtime even though they say they do not want to do it. As in the full sample, the likelihood of their being over-employed is significantly associated with the features of the post-Fordist work organization. This means that, for many employees, reducing contractual hours in a time-greedy workplace is indeed an illusion. They will end up working extra hours anyway, only without being paid for these hours.

The data we used to test the hypotheses were well suited to address the question of over-employment. To our knowledge, there have not been many such large, theory-driven data collections with all the relevant information on job design and organizational incentives. In earlier research the facets of post-Fordist work organization have been well described in case studies, the generalizability of which is generally limited. Our data set is large enough to warrant generalizability and it supports the concept of the post-Fordist work organization described in the literature. Our results thereby also provide a firm empirical basis for the conjectures and generalizations of authors such as Sennett (1998), Perlow (1999), Lewis (2003) and others.

The issue of working hours is currently under debate across Europe. The regulation of working hours is changing rapidly in a large number of countries, mostly with an eye towards increasing labour market flexibility, but also under pressure from EU legislation and trade unions (Freyssinet and Michon, 2003). In The Netherlands, the 'Working Hours Adjustment Act' gives employees the official right to adjust their contractual hours to their preferences. However, research conducted after the implementation of this law revealed that a large

number of employees are still over-employed (Fouarge and Baaijens, 2003). This is not surprising in the light of our results. Working-time regulation by law or collective agreements seizes upon official barriers that lose importance in the present-day labour market. The more subtle influences of post-Fordist job designs are less easy to tackle. This would imply that when employees, confronted with the cumulative results of the time spent at work, would like to work fewer hours, they would need to find another job with a less 'time-greedy' structure. This also implies that women, who often work part time due to household obligations (Plantenga et al., 1999), have fewer opportunities to work in these new workplaces (see also Perlow, 1998). The finding in other research that employees are only able to adjust their working hours by changing employers (Böheim and Taylor, 2004; Fouarge and Baaijens, 2003) supports this perspective. Böheim and Taylor thus rightly conclude that 'restrictions on work hours within the job and within the employer are important' (2004: 162) but leave us in the dark with regard to the nature of these restrictions. Their suggestion that 'the British labour market does not offer enough jobs with flexible work hours, at least for men' (2004: 162) may therefore even be a little off the mark. In the post-Fordist era, flexible working arrangements are part of the way in which firms can make time-greedy work arrangements easier to realize. Our results showed that official barriers to working-time reduction ceased to have an effect once we controlled for work characteristics. This indicates that the unwillingness of some employers to adjust working hours is a reflection of the same work imperatives that allow other employers to rely on tacit work controls to elicit the extra work effort they need. Therefore, in the post-Fordist firm, raising official barriers against working-time reduction amounts to throwing water into the Thames. This also means that once we know a worker is employed under such conditions of high performance and autonomy, knowing the employers' views about working hours provides little additional information.

Working-time regulation traditionally has been directed toward the length of the working week and official (i.e. paid) overtime. Many current initiatives are inspired by the wish to increase the room for choices by reducing the traditional lumpiness of work. Our results indicate that it is doubtful whether these initiatives could be very effective for large groups of employees. More likely, a growing number of employees face a new lumpiness of work under the regime of the post-Fordist workplace. They find themselves trapped in a cycle of unfinished tasks and after-hours duties despite new laws and regulations that broaden the individual possibilities to choose the desired amount of working hours.

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References

- Altonji, J.G. and Paxson, C.H. (2001) 'Labour Supply, Hours Constraints, and Job Mobility', *Journal of Human Resources* 17(2): 256–78.
- Arthur, M.B. and Rousseau, D.M. (eds) (1996) *The Boundaryless Career: A New Employment Principle for a New Organizational Era*. New York: Oxford University Press.
- Bielenski, H., Bosch, G. and Wagner, A. (2002) *Working Time Preferences in Sixteen European Countries*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- Böheim, R. and Taylor, M.P. (2004) 'Actual and Preferred Working Hours', *British Journal of Industrial Relations* 41(1): 149–66.
- Cappelli, P., Bassi, L., Katz, H., Knoke, D., Osterman, P. and Useem, M. (1997) *Change at Work*. New York: Oxford University Press.
- Clarkberg, M. and Moen, P. (2001) 'Understanding the Time-squeeze. Married Couples' Preferred and Actual Work-hour Strategies', *American Behavioral Scientist* 44(7): 1115–35.
- Euwals, R. and van Soest, A. (1999) 'Desired and Actual Labour Supply of Unmarried Men and Women in the Netherlands', *Labour Economics* 6: 95–118.
- Fagan, C. (2001) *Gender, Employment and Working Time Preferences in Europe*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- Fouarge, D. and Baaijens, C. (2003) *Veranderende arbeidstijden. Slagen werknemers er in hun voorkeuren te realiseren?* Tilburg: OSA.
- Freyssinet, J. and Michon, F. (2003) *Overtime in Europe*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- Glebbeeck, A. and Van der Lippe, T. (2004) 'Tijdconcurrentie: Een individueel of maatschappelijk probleem? [Time competition: An individual or societal problem?]', *Tijdschrift voor Arbeidsvraagstukken* 20(1): 8–20.
- Golden, L. (2004) 'Over-employment in the US: Which workers are willing to reduce their working hours and income?', paper presented at the international conference on working time, Paris, February 26–28.
- Goldstein, H., Rasbash, J., Plewis, I., Draper, D., Browne, W., Yang, M., Woodhouse, G. and Healy, M. (1998) *A User's Guide to MLwin*. London: Multilevel Models Project, Institute of Education, University of London.
- Hamermesh, D.S. and Pfann, G.A. (1996) 'Adjustment Costs in Factor Demand', *Journal of Economic Literature* 34(3): 1264–92.
- Kahn, A. (1966) 'The Tyranny of Small Decisions', *Kyklos* 19: 23–46.
- Kahn, S.B. and Lang, K. (1995) 'The Causes of Hours Constraint: Evidence from Canada', *Canadian Journal of Economics* 18(4a): 914–28.
- Landers, R.M., Rebitzer, J.B. and Taylor, L.J. (1996) 'Rat Race Redux: Adverse Selection in the Determination of Working Hours in Law Firms', *American Economic Review* 86(3): 329–48.

- Lewis, S. (2003) 'The Integration of Paid Work and the Rest of Life. Is Post-industrial Work the New Leisure?', *Leisure Studies* 22: 343–55.
- Lindenberg, S. (1986) 'The Paradox of Privatization in Consumption', in A. Diekmann and P. Mitter (eds) *Paradoxical Effects of Social Behavior. Essays in Honor of Anatol Rapoport*, pp. 297–310. Heidelberg/Wien: Physica-Verlag.
- Lindenberg, S. (2001) 'Social Rationality versus Rational Egoism', in J. Turner (ed.) *Handbook of Sociological Theory*, pp. 635–68. New York: Kluwer Academic/Plenum.
- Messenger, J.C. (2004) *Working Time and Workers' Preferences in Industrialized Countries – Finding the Balance*. Abingdon/New York: Routledge.
- Pencavel, J. (1986) 'Labor Supply of Men: A Survey', in O. Ashenfelter and R. Layard (eds) *Handbook of Labor Economics, Vol.1*, pp. 3–102. Amsterdam: North-Holland.
- Perlow, L. (1998) 'Boundary Control: The Social Ordering of Work and Family in a High-tech Corporation', *Administrative Science Quarterly* 43(June): 328–57.
- Perlow, L.A. (1999) 'The Time Famine: Towards a Sociology of Working Time', *Administrative Science Quarterly* 44(1):57–81.
- Plantenga, J., Schippers, J.J. and Siegers, J.J. (1999) 'Towards an Equal Division of Paid and Unpaid Work: The Case of the Netherlands', *Journal of European Social Policy* 9(2): 99–110.
- Rebitzer, J.B. and Taylor, L.J. (1995) 'Do Labor Markets Provide Enough Short-hour Jobs? An Analysis of Work Hours and Work Incentives', *Economic Inquiry* 33(2): 257–73.
- Reynolds, J. (2003) 'You Can't Always Get the Hours You Want: Mismatches Between Actual and Preferred Work Hours in the U.S.', *Social Forces* 81(4): 1171–99.
- Román, A., Fouarge, D. and Luijckx, R. (2004) *Career Consequences of Part-time Work: Results from Dutch Panel Data 1990–2001*. Tilburg: OSA.
- Schor, J.B. (1992) *The Overworked American: The Unexpected Decline of Leisure*. New York: Basic Books.
- SCP (2001) *Sociaal en Cultureel Rapport 2000*. Den Haag: Sociaal en Cultureel Planbureau.
- Sennett, R. (1998) *The Corrosion of Character*. New York: W.W. Norton.
- Smithson, J., Lewis, S., Cooper, C. and Dyer, J. (2004) 'Flexible Working and the Gender Pay Gap in the Accountancy Profession', *Work, Employment and Society* 18(1): 115–35.
- Smulders, P. and de Feyter, M. (2001) 'Gewenste arbeidsduur, deeltijdarbeid van bedrijven en beïnvloedende factoren', *Tijdschrift voor Arbeidsvraagstukken* 17(2): 119–36.
- Snijders, T.A.B. and Bosker, R.J. (1999) *Multilevel Analysis. An Introduction to Basic and Advanced Multilevel Modeling*. London: Sage.
- Spaans, J. (1997) *Tussen wens en realiteit. Onderzoek naar de wijze waarop mannelijke werknemers hun deeltijdwens en/of wens tot calamiteitenverlof realiseren en de belemmeringen daarbij*. Gravenhage: VUGA Uitgeverij.
- Stewart, M.B. and Swaffield, J.K. (1997) 'Constraints on the Desired Hours of Work of British men', *The Economic Journal* 107(March): 520–35.

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