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Abstract
Many employees nowadays make use of arrangements which provide them with flexibility in the duration, schedule and location of their work in order to combine work and private life. Previous research has established, however, that working part-time for instance comes at a cost and has a negative impact on career advancement. For schedule and location flexibility this aspect is less clear, because working time is not reduced and human capital thus does not depreciate. Employees who make use of flexi-time or telehomework are less visible at the workplace, however. Their amount of face-time is reduced and employers may therefore perceive them as less committed to their work and be more reluctant to award promotions or paid training to them. In this paper we therefore investigate the consequences of schedule and location flexibility on career advancement in a longitudinal setup. Our results indicate that flexi-time and occasional telehomework do not affect career advancement significantly. A significant lack of face-time due to working at home more frequently, however, is associated with fewer promotions and less employer-paid training and thus adverse effects on career advancement.

Keywords: career; face-time; flexi-time; location flexibility; promotions; telehomework; schedule flexibility; training

JEL classification: J24; J29; J62; M51; M53

1 Introduction

Many employees nowadays make use of work arrangements with which they can influence and modify the duration, schedule and location of their work. These arrangements provide them with flexibility in the duration (part-time work for example), schedule (flexi-time), and location (telehomework) of their work. Together, this is what we refer to as temporal and locational flexibility of work (TLF).

TLF is, among other things, viewed as a means to combine paid work with other activities and as such highly topical in the policy debate in a number of countries (see e.g. CEA, 2010; BMFSFJ, 2012). Previous research on arrangements that support the combination of work and private life via a (temporary) reduction of working time, like part-time work or parental leave for instance, has shown adverse effects of these arrangements on careers, like fewer promotions, fewer training opportunities or reduced wage growth, however (e.g. Stafford and Sundström, 1996; Glass, 2004; Román, 2006; Connolly and Gregory, 2008; Russo and Hassink, 2008). These adverse effects have been mainly attributed to depreciation of human capital, occupational segregation, and statistical discrimination based on real or expected productivity differentials. So while duration flexibility may be a means to combine work with private life, one of its major drawbacks is that it harms an employee's career.

A notable difference between arrangements like part-time work and parental leave, which provide flexibility via a reduction of work duration, and arrangements such as flexi-time and telehomework which provide flexibility in the work schedule or location, is that with the latter employees do not reduce their total workload but only vary or reduce their physical presence or face-time at the workplace. These arrangements make it possible to complete work tasks from home or at a different time of the day, even though private responsibilities may sometimes interfere with work responsibilities (e.g. having to pick up the children from school at a certain time). So whereas employees utilising these arrangements may be less visible at the workplace compared to their colleagues that do not make use of them, their work output should be about the same. Occasionally working at home or shifting work towards times when the office is less crowded may even affect productivity positively due to a reduction of distractions and disruptions of work. Thus if work duration, completed workload, and output are the prime categories on which employers award promotions, utilisation of TLF arrangements like flexi-time and telehomework should not make a difference for career prospects. In that case, flexi-time and telehomework would be superior arrangements to combine paid work with other activities and responsibilities.

Employers may, however, interpret the utilisation of these arrangement by employees, i.e. less face-time, as an indicator for competing interests between work and private life and thus (relatively) low commitment towards the job. If this is indeed the case and

employers base their perceptions of employees' commitment on their visibility at work and use it as a screening device, then schedule and location flexibility may exert a negative effect on career advancement after all. Anecdotal evidence about low utilisation of TLF arrangement due to career concerns and previous research that stresses the importance of supervisory and organisational support (e.g. Allen, 2001; Ryan and Kossek, 2008; Hoobler et al., 2009) both suggest that presence and visibility at the workplace matter for career advancement. It is therefore unclear to what extent the adverse effects that are documented for the utilisation of duration flexibility are to be expected for schedule and location flexibility as well.

In this paper we therefore investigate the consequences of schedule and location flexibility on career advancement in a longitudinal setup. In particular we estimate the effect of flexible begin- and end-times of work and the weekly frequency of telehomework utilisation on the incidence of promotions and employer-paid training in the two years following the current survey. The analysis is carried out on the basis of a large Dutch household panel dataset for the years 2004–2010, which makes it possible to control for various potentially confounding factors.

Our results indicate that flexi-time and occasional telehomework do not affect career advancement significantly, at least not with respect to promotions and employer-paid training. Working at home more frequently, however, is associated with fewer promotions and less employer-paid training and thus adverse effects on career advancement.

2 Theoretical framework

Employees who (temporarily) reduce their working time often face adverse career effects compared to their colleagues who do not make use of arrangements such as part-time work or parental leave (Román, 2006). This can mainly be attributed to a depreciation of human capital as well as occupational segregation and sorting. Human capital depreciates because employees who work fewer hours gain less work experience relative to their full-time working colleagues. Furthermore their prior work-related knowledge and experience stagnates or even deteriorates because it is underutilised and they may also receive less training due to its fixed costs (Hirsch, 2005; Manning and Swaffield, 2008; Russo and Hassink, 2008).

Occupational segregation is caused by employees having to switch employers, jobs, and/or task profiles to gain access to certain working conditions, e.g. to effectively be able to work part-time for example (Connolly and Gregory, 2008; Manning and Petrongolo, 2008). Or they may choose to stay in a certain job and function level in order to maintain certain job amenities. This means that they effectively trade-off career advancement for stability and flexibility (Evertsson and Duvander, 2011). Employees making use of duration flexibility thus switch to or stay in jobs less favourable for career advancement.

Compared to duration flexibility, i.e. a (temporary) reduction of working time, schedule and location flexibility are not likely to lead to adverse career effects via these two channels. For one, with arrangements such as flexi-time and telehomework employees do not reduce their working time and therefore gain as much work experience as their colleagues who do not make use of these arrangements. A depreciation of human capital is therefore not to be expected. In addition, these arrangements are awarded more often to employees in higher ranks (Gray and Tudball, 2003; Golden, 2008, 2009), so (negative) occupational segregation does not seem likely here either. This suggests that regarding career prospects, schedule and location flexibility appear to be attractive alternatives for employees to combine work and private life compared to duration flexibility.

A third reason for adverse career effects, however, is statistical discrimination based on expected or real differentials in effort, reliability, and productivity (Phelps, 1972; Román, 2006; Sigle-Rushton and Waldfogel, 2007; Evertsson and Duvander, 2011). Since investments like hiring, training and promotion of employees are costly, employers generally prefer dependable employees who are continuously available and display an unfettered dedication towards their job. Clearly it is most profitable for employers to promote those employees that are the most productive and ambitious and that put in the most effort at the workplace. Ambition, effort, and productivity are not fully observable at reasonable cost, however. Faced with such asymmetric information, employers often rely on signals and screening devices to evaluate (prospective) employees. The most extensively discussed example in the literature is the use of education as an indicator in the hiring decision. Apart from human capital, differences in education reveal differences in ability and ambition between prospective employees and can therefore be used to sort and rank them (Arrow, 1973; Spence, 1973; Stiglitz, 1975).

Employers assess their employees not only during the hiring process, but also evaluate them later on in order to select candidates for promotion and career development for example. Where work performance or output cannot be measured directly in the production process, employers have to rely on other indicators. One such indicator appears to be visibility and presence at the workplace. The use of long hours and overtime as an indicator that is based on visibility at work is documented in the economic literature (Landers et al., 1996; Simpson, 1998; Sousa-Poza and Ziegler, 2003; Anger, 2008). According to this literature employees are incited to compete over long hours because those employees that display the most overtime are rewarded with better career prospects. Visibility and presence at work thus is interpreted as an indicator of resilience, effort, and ambition. It also indicates whether or not employees have private responsibilities that may interfere with work, because those who do cannot effectively compete over long hours (Simpson, 1998).

An underlying psychological mechanism for the evaluation based on visibility, which is mainly discussed in the human resource management and social sciences literature, is the concept of face-time (Kossek and Dyne, 2008; Elsbach et al., 2010). According to

Elsbach et al. (2010), observers make spontaneous trait inferences based on the amount of face-time – the amount of time one is seen at the work site – and more visible employees are perceived more positively than less visible ones. These trait inferences are not only based on direct interactions with colleagues and supervisors, but also on differences in *passive* face-time. This means that being passively observed at the worksite without direct interactions affects perceptions about an employee.

Elsbach et al. (2010) further distinguish between expected face time – being seen at work during normal work hours – and extracurricular face-time – being seen at work outside of normal work hours (in addition to being seen during normal hours). According to their study, employees who display expected face-time are perceived as 'reliable' and 'dependable', whereas employees who show extracurricular face-time are considered by their supervisors and peers to be 'dedicated' and 'committed'. This implies that employees are evaluated both on the basis of the amount and the timing of their presence at work. It further suggests that extraordinary presence at the workplace is necessary to display effort and ambition. This corresponds well with the economic literature on long hours and overtime according to which presenteeism at the workplace is interpreted as an indicator of effort and ambition.[1]

Visibility and presence at the workplace is consequently an important factor for the assessment of employees, in particular for promotions and other career decisions. But how do different TLF arrangements influence the amount of face-time? Working reduced hours, possibly due to competing demands at home, unambiguously reduces presence at work and therefore lowers employers' expectations regarding the productivity and motivation of an employee (Becker, 1985; Sigle-Rushton and Waldfogel, 2007; Evertsson and Duvander, 2011). For arrangements that provide duration flexibility, like part-time work or parental leave, it has therefore been established that they affect career prospects negatively (Stafford and Sundström, 1996; Sheridan, 2004; Román, 2006; Russo and Hassink, 2008).

For flexibility in schedule or location, i.e. flexi-time or telehomework, the situation is more complex. If flexi-time is organised around an interval of core hours it can be assumed that that the core hours are the interval during which face-time is expected. Holding working hours constant, flexi-time will not have a large impact on visibility at work then. If the flexi-time scheme does not require core hours it is difficult to predict its impact because the effect depends on the design and the utilisation of the flexi-time scheme within the firm and the resulting expectations of colleagues and supervisors.[2]

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[1] Elsbach et al. (2010) emphasize that the trait inferences are made spontaneously and unintentional. This is a major difference compared to signalling and screening theories because the latter assume an intentional act from at least either the employee and the employer. The prediction of the passive face-time approach about the TLF arrangement – career nexus is the same, however, namely that less visibility at the workplace decreases promotion probability.

[2] In general, if employees' flexi-time utilisation is perceived as being mostly caused by work demands it

Since we have no data on the exact design of the flexi-time scheme we hypothesise that flexi-time does not change perceptions of visibility significantly and therefore does not affect career opportunities, such as promotions and employer-paid training.

Hypothesis 1: *Flexi-time does not affect career opportunities.*

For telehomework the impact on visibility and subsequently on career advancement depends on the extent and timing of usage. For employees, there may be two different motivations for the use of locational flexibility in the form of telehomework. One is to complete work at home and to stay on top of things in order to show extra initiative and commitment towards the job. This type of telehomework is presumably carried out occasionally, in an *ad hoc* fashion, and outside of regular office hours in the evening or at weekends. It therefore takes place during times that would be considered extracurricular face-time. This type of telehomework is a complement to time spent in the office and may thus be considered 'overtime at home'.[3] As such it indicates extra effort and ambition and improves career opportunities.

Hypothesis 2a: *Occasional telehomework improves career opportunities.*

The other motivation for telehomework is to be able to combine work and private life and to attend to private responsibilities. This type of telehomework is presumably carried out after an employee leaves work early or on designated work-at-home days, i.e. in a time interval during which presence at the office is usually expected. These employees are therefore likely to be perceived as less dependable and less committed to their work. In this scenario telehomework serves as a substitute for time spent at the office and, with respect to face-time, telehomework becomes more similar to part-time work. It is not possible then for employers to distinguish between extraordinary and expected effort, because traditional indicators such as overtime can not be observed. As a consequence, there is more uncertainty regarding the performance and effort of the teleworking employee. So if telehomework is utilised frequently, employers are likely to interpret this as competing demands between work and private life and as an indicator of (relatively) low commitment and ambition towards the job. Frequent telehomework therefore diminishes career opportunities.

Hypothesis 2b: *Frequent telehomework diminishes career opportunities.*

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should have a positive impact; if it is perceived as being mostly caused by private or home demands, however, it is likely to have a negative impact on the perceptions of supervisors and colleagues.

[3] 'To finish work / overtime' is actually the main motivation for working at home given by the respondents in the data used for our analysis (cf. Vlasblom et al., 2013).

3 Methodology

3.1 Data and variable description

The data for the analysis is taken from the Dutch Labour Supply Panel (*Arbeidsaanbod-panel*, AAP), a biennial panel survey of a representative sample of Dutch households.[4] The panel survey is conducted to study developments in labour market behaviour and working conditions in the Netherlands and covers a broad range of work- and life-course-related items. The target population consists of the Dutch labour force aged 16 to 66 years. The AAP exists since 1985, but questions about telehomework frequency, which we intend to use here, were consistently asked in 2004 for the first time, so only the waves from 2004 onwards are suitable for our analysis.[5] This means that we have four waves available, for every other year since 2004 to the last publicly available wave from 2010.

As indicators for schedule and location flexibility, we use flexi-time and telehomework, respectively. The flexi-time variable was obtained from the following survey question:

> 'Can you say whether each of the following characteristics does or does not apply to the work you do? [...] Determine start- and end-time myself'

The binary flexi-time variable therefore indicates whether the respondent has variable, self-determined start- and ending times.

The telehomework frequency variable was obtained from the following question:

> 'Do you work at home every now and then in your current job?'

If the answer is yes, the respondent is then asked:

> 'How often do you work at home on average? Never; less than once a week; once a week; twice a week or more.'

From this we create the telehomework frequency variable with four categories. While the question refers to work at home and not explicitly to telework, only 2.71% of the respondents in our net sample who work at home do not use ICT. Hence we label this variable telehomework.

The part-time variable is based on a question on actual hours:

> 'How many hours do you <u>actually</u> work per week on average?'

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[4] The panel was formerly known as the OSA Labour Supply Panel is now conducted on behalf of the Social en Cultureel Planbureau. The data and its documentation are in Dutch and available via http://easy.dans.knaw.nl (`urn:nbn:nl:ui:13-4js-jl3`).

[5] Telehomework frequency is already available in 2002, but with a different, incompatible coding.

From this we created a variable with four categories: small part-time (1–11h) , medium part-time (12–19h), large part-time (20–35h) and full-time employment (36+h). We use a categorical instead of a continuous variable in order to account for potential non-linearities in the effects.

As dependent variables we use promotions and employer-paid training in the two years following the current survey as indicators for career advancement. The information on promotion and training was taken from the following wave of the panel. Regarding promotions, respondents were asked whether their employment situation had changed in the previous two years, i.e. they were asked in $t + 1$ if there were any changes between t and $t + 1$. Up to seven employment changes within the preceding two years were recorded in total. If the employment situation changed, employees were asked whether they got promoted at the same employer. Our variable indicates a promotion if one of these changes was reported by the respondent as one. Since our reference point is time t and the promotion happened between t and $t + 1$, we call this future promotion.

The training variable is constructed very similarly. It indicates future employer-paid training if the respondent reported in the next wave that at least one of up to three work- or employment-related studies or courses he or she followed in the previous two years was paid by the employer.

A number of control variables are used in the regression analysis in order to rule out confounding factors due to differences in individual, household and job characteristics. These are respondents' age, marital status, children at home, level of education, work experience, permanent contract, sector, firm size and year dummies.

Our sample is restricted to employees only, i.e. we exclude self-employed, unemployed and full-time students for example. This is by design, because a respondent has to be employed in order to become promoted or receive employer-paid training. We also exclude employees who always work at home, because the employer does not offer a workplace for example. Furthermore we can only use information from individuals with observations from at least two consecutive years, because information about promotions and training needs to be taken from the following wave of the panel. This also implies that we effectively drop all observations from 2010 (except for the information on promotions and training between 2008 and 2010 from that wave). Finally we drop observations with missing values on any of the variables used in the analysis by listwise deletion. This results in an unbalanced panel of 6,642 observations from 3,471 individuals. Table 1 gives an overview over the variables used and compares the gross and net samples. The net sample contains only the observations used in our analysis whereas the gross sample also contains those observations with missing data. The descriptives do not differ markedly between both samples. Individuals in the net sample are slightly more likely to work at home, to work full-time, to be married rather than single, to have children, to have more work experience and to have a permanent contract. All of the following statistics are restricted to the net sample.

Table 1: Descriptive statistics

Variables	Gross sample		Net sample		Min	Max
	Mean	S.E.	Mean	S.E.		
Future promotion	0.07	(0.003)	0.07	(0.003)	0	1
Future employer-paid training	0.35	(0.006)	0.35	(0.006)	0	1
Flexi-time	0.38	(0.005)	0.40	(0.006)	0	1
Telehomework frequency						
Never	0.69	(0.004)	0.66	(0.006)	0	1
Less than once a week	0.14	(0.003)	0.16	(0.004)	0	1
Once a week	0.07	(0.002)	0.08	(0.003)	0	1
Twice a week or more	0.10	(0.003)	0.10	(0.004)	0	1
Actual work hours						
Small part-time (1–11h)	0.08	(0.003)	0.05	(0.003)	0	1
Medium part-time (12–19h)	0.11	(0.003)	0.10	(0.004)	0	1
Large part-time (20–35h)	0.30	(0.004)	0.31	(0.006)	0	1
Full-time (36+h)	0.51	(0.005)	0.54	(0.006)	0	1
Marital status						
Married	0.64	(0.005)	0.71	(0.006)	0	1
Cohabiting	0.11	(0.003)	0.11	(0.004)	0	1
Single	0.25	(0.004)	0.18	(0.005)	0	1
Child(ren)	0.52	(0.005)	0.57	(0.006)	0	1
Work experience	19.88	(0.110)	21.46	(0.132)	0	52
Permanent contract	0.82	(0.004)	0.87	(0.004)	0	1
No. of employees (/1000)	0.52	(0.024)	0.53	(0.025)	0	60
2004	0.31	(0.004)	0.29	(0.006)	0	1
2006	0.36	(0.005)	0.35	(0.006)	0	1
2008	0.34	(0.005)	0.35	(0.006)	0	1
Observations	10740		6642			
Individuals	6147		3471			

Note: The gross sample comprises the observations of all employees in the sample, the net sample the observations used for estimation after list-wise deletion due to missing values. S.E. is the standard error of the mean.

3.2 Statistical model

We estimate a simple model in which the probability of a promotion in the future depends, among others, on whether employees have flexible working times, the frequency of telehomework, and the number of actual work hours:

$$P_{i,t+1} = \beta_1 ft_{i,t} + \beta_2 tw_{i,t} + \beta_3 pt_{i,t} + \gamma' Z_{i,t} + \alpha_i + \varepsilon_{i,t} \tag{1}$$

$P_{i,t}$ is a dummy variable equal to one if the employee i was promoted between the years t and $t + 1$, and zero otherwise. $ft_{i,t}$ designates a flexi-time dummy, $tw_{i,t}$ and $pt_{i,t}$ vectors of indicators for telehomework frequency and the number of actual hours, respectively. $Z_{i,t}$ is a vector of control variables (including time dummies), α_i the individual-specific, and ε_{it} the idiosyncratic error term. β_k ($k = 1, 2, 3$) and γ are vectors of parameters to be estimated. With this model we essentially regress observable individual, job, and firm characteristics in t on the probability of promotion between t and $t + 1$ (i.e. within the two years following the current survey). The model for future training is equivalent.

The models are estimated with a fixed-effects linear probability specification (LPM) and a fixed-effects logit specification. The advantage of the LPM over the logit specification is that it easily provides average marginal effects. LPMs may not be suitable, however, if too many observations are predicted outside the unit-interval, i.e. smaller than zero or larger than one. In our case this affects up to 14.5% of the observations in the different estimations. Therefore, we also estimate a fixed-effects/conditional logit specification as a sensitivity check. Both specifications are estimated for the total sample and separately for male and female employees.

A drawback of the fixed-effects/conditional logit specification and therefore a limitation of this analysis is that only those individuals with variation in the dependent variable are used for estimation. This means that individuals who received promotion/training in all observed waves or none at all are eliminated from the estimation sample, so there might be some selection going on (see the relatively low number of individuals and observations used in the fixed-effects logit specifications reported below). This essentially applies to the fixed-effects LPM as well, since it only makes use of the within-variation. Random-effects specifications are not likely to provide consistent estimates, however, since one has to make the strong assumption that the individual-specific error is not correlated with explanatory variables. Hausman tests consequently rejected any random-effects specification in favour of fixed-effects. We also tested several variables for an instrumental variables specification, but unfortunately the dataset does not provide suitable and convincing instruments.

Table 2: Future promotion and training by TLF arrangements

	Promotion		Training		N
	%	S.E.	%	S.E.	
Flexi-time					
No	6.69	(0.40)	32.17	(0.74)	3963
Yes	8.32	(0.53)	39.08	(0.94)	2679
Telehomework frequency					
Never	6.56	(0.37)	30.92	(0.70)	4389
Less than once a week	10.75	(0.95)	44.25	(1.53)	1060
Once a week	6.93	(1.13)	44.75	(2.21)	505
Twice a week or more	7.41	(1.00)	39.24	(1.86)	688
Actual hours					
Small part-time (1–11h)	4.78	(1.17)	11.04	(1.72)	335
Medium part-time (12–19h)	4.25	(0.79)	27.31	(1.74)	659
Large part-time (20–35h)	7.17	(0.57)	34.01	(1.04)	2079
Full-time (36+h)	8.27	(0.46)	39.17	(0.82)	3569
Total	7.35	(0.32)	34.96	(0.59)	6642

Note: Percentage of employees receiving future promotion or training by TLF arrangements. S.E. is the standard error of the mean.

4 Results

On average, 7.35% of the employees in the net sample are promoted in the following two years, whereas 34.96% participate in employer-paid training. A simple cross-tabulation suggests that TLF indeed affects the probability of both incidents (table 2). Employees with access to flexi-time are promoted more often than those without, even though this difference of 1.63 percentage points is only statistically significant at the 10% significance level. They also participate more often in employer-paid training (6.91 points). Employees who work at home less than once a week are promoted more often than employees who never work at home by 4.19 percentage point. There is no significant difference between those who never work at home and those who work at home once a week or more often, however. All telehomeworkers have a significantly higher chance of participating in employer-paid training compared to those employees who never work at home. Employees working full-time and those with large part-time jobs finally are promoted and participate in training more often than those in small and medium part-time jobs. So based on these simple cross-tabulations one might conclude that TLF arrangements do matter for career advancement and that (occasional) use of schedule and location flexibility may improve career opportunities.

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These descriptive statistics do not take any confounding factors like individual and job characteristics into account of course. We therefore turn to the parameter estimates of the regression analysis. Table 3 shows the results for future promotions. We will mainly focus on the LPM results in the following and discuss the results of the logit specifications only where they differ.

For employees who work at home at least once a week the incidence of promotion is reduced by about 5 percentage points and working at home twice a week or more is associated with a reduction of the promotion probability of 6 percentage points. The logit estimates are only borderline significant at the 10% level but similar to the LPM results in general. This supports the hypothesis that regular telehomework decreases visibility at work and thus conveys an impression of unreliability, less dedication towards work, and competing responsibilities at home.[6]

Occasional telehomework, however, i.e. working at home less than once a week, does not significantly affect the promotion probability for the total sample. This suggests that the data does not support hypothesis 2a, namely that occasional telehomework is viewed as 'overtime at home' and therefore increases career opportunities.

Access to flexi-time also does not seem to affect the probability of promotion significantly for the total sample; the coefficient is not significantly different from zero (or one in case of the odds ratios reported for the logit model). The data therefore does not reject the hypothesis that flexi-time does not affect career advancement.

The coefficients on part-time work are not significantly different from zero, which seems to suggest that there is no effect. At first glance, this is surprising, given that previous research has shown that part-time work has adverse effects on career advancement. Since our estimation strategy relies on within-variation only, however, there may not be a sufficient number of observations in the smaller part-time categories with variation in promotion probability to be able to estimate a clear effect. It might also take more time for negative effects of part-time to appear, i.e. the time span covered in our data may be too narrow. From a more optimistic point of view, it might also be the case that since part-time work is so widespread in the Netherlands, particularly among female employees, it does not serve as a screening device anymore and therefore does not exert a negative effect here.[7] Human capital effects, however, should still be observable in the medium and long run.

We also estimate equation 1 separately by gender. Since the time-varying control variables are neither individually nor jointly significantly different from zero, we omit them from the model. We also omit the part-time work categories for male employees

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[6] The results from the fixed-effects specifications are virtually the same if we omit all control variables and regress future promotion only on flexi-time and telehomework frequency.

[7] Albrecht et al. (1999) for example argue for the Swedish case that parental leave can only act as a signal when men take it. Since virtually all entitled women take parental leave due to the strong financial incentives and custom, their leave taking does not signal anything towards the employer.

Table 3: Parameter estimates: Future promotion

Variables	Total		Male		Female	
	LPM	Logit (OR)	LPM	Logit (OR)	LPM	Logit (OR)
Flexi-time	−0.0165	0.691	5.3e-4	1.01	−0.0371*	0.46*
	(0.0149)	(0.175)	(0.0205)	(0.365)	(0.0215)	(0.204)
Telehomework frequency Ref: Never						
Less than once a week	−2.2e-4	1.05	−4.4e-4	0.976	0.0017	1.11
	(0.0198)	(0.236)	(0.0266)	(0.338)	(0.0291)	(0.506)
Once a week	−0.0504**	0.551	−0.0612*	0.392**	−0.0324	0.922
	(0.0251)	(0.209)	(0.0323)	(0.185)	(0.0387)	(0.453)
Twice a week or more	−0.0596**	0.539*	−0.0699*	0.469	−0.0431	0.707
	(0.0265)	(0.181)	(0.0372)	(0.24)	(0.0372)	(0.505)
Actual work hours Ref: Full-time (36+h)						
Small part-time (1–11h)	0.0185	1.72	–	–	0.0723	5.67
	(0.0391)	(7.12)			(0.0489)	(26.3)
Medium part-time (12–19h)	0.0282	1.43	–	–	0.0721*	4.12
	(0.033)	(3.24)			(0.0422)	(8.62)
Large part-time (20–35h)	−0.0176	0.718	–	–	−0.001	1.03
	(0.0224)	(0.336)			(0.0342)	(0.469)
Martial status Ref: Married						
Cohabiting	−0.0208	0.823	–	–	–	–
	(0.0555)	(0.467)				
Single	−0.0783	0.385	–	–	–	–
	(0.0673)	(0.412)				
Child(ren)	0.0167	1.87	–	–	–	–
	(0.0231)	(0.774)				
Work experience	−4.7e-5	0.989	–	–	–	–
	(0.0017)	(0.0458)				
Permanent contract	0.0154	1.28	–	–	–	–
	(0.0214)	(0.447)				
No. of employees (/1000)	−9.8e-5	1.01	–	–	–	–
	(0.0031)	(0.159)				
Constant	0.0743	–	0.0777***	–	0.0578*	–
	(0.0491)		(0.0157)		(0.0309)	
Pred. outside unit int. (%)	14.5		0		20.01	
Observations	6642	749	3479	386	3163	363
Individuals	3701	290	1892	146	1809	144

$* \ p < 0.10, ** \ p < 0.05, *** \ p < 0.01$

Note: Parameter estimates of fixed-effects linear probability (LPM) and logit specifications of TLF arrangements on future promotion. Coefficients of logit models are odds ratios. Year (wave) dummies included. Clustered (LPM) / bootstrapped (logit) standard errors in parentheses.

because there is too few simultaneous variation in part-time work and future promotion to reliably estimate an effect. Looking at the estimation results, it turns out that flexi-time appears to have a slightly negative effect on the promotion probability for female employees, but the coefficient is only borderline significant at the 10% level in both the LPM and logit specifications. The negative effect of regular (once a week) and frequent (twice a week or more) telehomework that we observed for the total sample seems to be significant for male employees only. Here, the two coefficients are also one percentage point larger than for the total sample. For female employees the coefficients on telehomework and part-time work are not significantly different from zero.

The results for training, shown in table 4, draw a similar picture. Working at home twice a week or more decreases the probability of employer-paid training by 7.7 percentage points compared to those employees who never work at home according to the estimates for the total sample. Employees in small part-time jobs also have a significantly lower probability to receive employer-paid training than full-time employees, namely 16.8 percentage points. Flexi-time, however, does not affect the probability of employer-paid training significantly according to the estimates, nor does occasional telehomework.

Again it is mainly male employees who seem to be affected by the negative impact of telehomework. For them the coefficients for regular and frequent telehomework indicate a significant drop in employer-paid training by about 8.7 percentage points. For females only the coefficient on working at home twice a week or more on the logit specification is significant at the 10% level and indicates a decrease in employer-paid training comparable in size to males. Regular or occasional telehomework does not seem to influence the probability of employer-paid training for females significantly.

The coefficients on part-time work are only significant for the male sample, but not for female employees. Note, however, that the share of males working small or medium part-time jobs is very small in our sample (2.1% and 1.5%, respectively).

We also estimated our model on an indicator of future new employment relation with a different employer, i.e. a future job switch. We do not find a significant effect here (not shown). This underlines that schedule and location flexibility is only visible and sanctioned internally within the firm and not outside the firm. The amount of face-time therefore only serves as an indicator for the current employer but not for others.

5 Discussion and conclusion

Many employees make use of work arrangements which provide them with flexibility in the duration, schedule, and location of their work. Previous research has established, however, that duration flexibility, such as part-time work, comes at a cost and has a negative impact on career advancement. For schedule and location flexibility this aspect is less clear, however. On the one hand, employees do not reduce their total working

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Table 4: Parameter estimates: Future employer-paid training

Variables	Total		Male		Female	
	LPM	Logit (OR)	LPM	Logit (OR)	LPM	Logit (OR)
Flexi-time	−0.0084	0.948	−0.0268	0.825	0.0165	1.14
	(0.025)	(0.163)	(0.0334)	(0.188)	(0.037)	(0.255)
Telehomework frequency						
Ref: Never						
Less than once a week	7.7e-4	0.972	−0.0254	0.814	0.0304	1.14
	(0.0283)	(0.171)	(0.0358)	(0.194)	(0.047)	(0.292)
Once a week	−0.0158	0.868	−0.0874*	0.521*	0.0672	1.37
	(0.0354)	(0.201)	(0.0479)	(0.186)	(0.0521)	(0.368)
Twice a week or more	−0.0773**	0.602**	−0.0877*	0.562*	−0.07	0.548*
	(0.0378)	(0.152)	(0.0527)	(0.175)	(0.0542)	(0.171)
Actual work hours						
Ref: Full-time (36+h)						
Small part-time (1–11h)	−0.168**	0.353*	−0.338***	1.3e-13***	−0.0927	0.585
	(0.0722)	(0.202)	(0.122)	(9.8e-13)	(0.0938)	(0.325)
Medium part-time (12–19h)	−0.0452	0.732	−0.132	1.6e-7***	−0.0142	0.949
	(0.0522)	(0.329)	(0.113)	(8.0e-7)	(0.0668)	(0.395)
Large part-time (20–35h)	0.0022	1.02	−0.0137	0.896	0.0251	1.25
	(0.0352)	(0.279)	(0.0496)	(0.272)	(0.0534)	(0.448)
Martial status						
Ref: Married						
Cohabiting	−0.119*	0.513	−0.243***	0.251	0.0125	1.16
	(0.0667)	(0.21)	(0.0917)	(0.74)	(0.0936)	(0.861)
Single	−0.127	0.5	−0.132	0.468	−0.0759	0.718
	(0.0877)	(0.288)	(0.113)	(3.07)	(0.126)	(0.601)
Child(ren)	0.0401	1.3	0.0117	1.07	0.0764	1.76
	(0.0389)	(0.316)	(0.0568)	(0.376)	(0.0518)	(0.643)
Work experience	−0.0048*	0.953*	−9.9e-6	1	−0.0099**	0.908***
	(0.0027)	(0.0264)	(0.0035)	(0.0351)	(0.0041)	(0.0326)
Permanent contract	−0.0168	0.904	−0.0125	0.939	−0.0128	0.957
	(0.0303)	(0.178)	(0.05)	(0.239)	(0.0381)	(0.354)
No. of employees (/1000)	0.0018	1.01	0.0016	1.01	0.0056	1.03
	(0.0056)	(0.0551)	(0.006)	(0.0401)	(0.0131)	(0.138)
Constant	0.485***	–	0.461***	–	0.438***	–
	(0.0717)		(0.101)		(0.106)	
Pred. outside unit int. (%)	0.0452		7.85		2.56	
Observations	6642	1955	3479	1079	3163	876
Individuals	3701	747	1892	408	1809	339

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Parameter estimates of fixed-effects linear probability (LPM) and logit specifications of TLF arrangements on future employer-paid training. Coefficients of logit models are odds ratios. Year (wave) dummies included. Clustered (LPM) / bootstrapped (logit) standard errors in parentheses.

time when they vary their schedule or location of work, so human capital considerations should not play a role here. Occupational segregation or downgrading is also not likely to be a major issue, because schedule and location flexibility is often available in higher status jobs as well. The amount of face-time of employees who make use of flexi-time or telehomework – i.e. the amount of time they are seen at the workplace – is reduced, however. This may lead supervisors and colleagues to perceive them as less committed to their work and employers might therefore be more reluctant to award promotions or employer-paid training to them.

We analysed the consequences of schedule and location flexibility on career advancement in a longitudinal setup. The results of our analysis, based on a large Dutch household panel dataset spanning the years 2004 to 2010, indicate that flexi-time (variable start- and end-times) generally does not significantly affect the probability of future promotions and employer-paid training. The only exception is that flexi-time seems to have a negative effect on the promotion probability of female employees. This result is not further supported by our estimates on employer-paid training or for male employees, however.

Occasional telehomework also does not affect promotions and employer-paid training according to our estimates. Our hypothesis that occasional telehomework may be interpreted as 'overtime at home' is therefore not supported by the data. More frequent telehomework, however, decreases the probability of both promotions and employer-paid training, especially for male employees. Our interpretation of these findings is that the amount of face-time indeed plays an important role for the assessment of (male) employees and that less face-time impairs further career development.

The results merit some discussion to put them into perspective. First of all, we have not discussed another potential confounding factor in the in the relation between TLF arrangement utilisation and career prospects, namely that there may be differences in productivity due to TLF arrangement use. If TLF affects productivity (negatively) then these differences in productivity may explain differences in promotion and training opportunities. We implicitly assumed that productivity is not affected by TLF utilisation, since there is no good indicator of productivity available in our data. Many previous studies on productivity and performance effects of schedule and location flexibility indeed find small positive or no effects (Hill et al., 1998; Baltes et al., 1999; Eaton, 2003; Gajendran and Harrison, 2007).[8] Studies on the relationship between schedule and location flexibility and wages suggest a positive effect on productivity as well (e.g. Johnson and Provan, 1995; Gariety and Shaffer, 2001, 2007). Productivity effects of TLF may therefore have a (small) counterbalancing effect on the TLF–career relation. Our results would then

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[8] It seems likely though, that the productivity effects depend on the intensity of TLF utilisation and the nature of work tasks, see. e.g. Dutcher (2012).

constitute a lower bound for the relation between telehomework and promotions.[9]

Second, the result that flexi-time does not seem to have an impact on promotions and employer-paid training should be used with caution, because our data on flexi-time is relatively poor. We only use a binary indicator for access to flexible start- and end-times, because we have no data on usage available. Since flexi-time implies that employees spend their whole working time at the workplace, i.e. the timing of face-time varies but the amount stays the same, it seems reasonable to expect that it has less of an effect on promotions for example than telehomework. Since it is more commonly available than telehomework, it may not be possible to use it as a reliable screening device, either (cf. Albrecht et al., 1999). Nevertheless, it would be desirable for future research to be able to confirm this hypothesis with better data and a different estimation strategy.

Third, employers may have different motivations to pay for the training of their employees. Even though its main motivation is likely to be employee retention and career development (cf. Acemoglu and Pischke, 1998), e.g. by rewarding highly productive employees, it may also be assigned to employees with low productivity to get them (back) up to standard. Training may also be directly related to telehomework, if employees receive training to work more efficiently at home for example. This would imply a positive effect of telehomework on employer-provided training. Our estimates would then constitute a lower bound for the relation between telehomework and career-related training. Despite these minor shortcomings, we nevertheless believe that the estimations on training in combination with those on promotions draw a consistent and comprehensive picture of the adverse effects of frequent telehomework on career advancement.

In summary, our results suggest that moderate schedule and location flexibility does not significantly harm career opportunities. Flexi-time and telehomework can therefore be considered useful arrangements to combine paid work with other activities and responsibilities. More frequent use of these arrangements by employees, however, is sanctioned by employers with fewer promotions and less training. A significant lack of face-time thus seems to be interpreted as insufficient commitment towards the job and competing interests between work and private life. Since the amount of face-time is not visible outside the firm, the negative career effects of flexi-time and telehomework do not seem to extend to new jobs, however. So as long as employees ensure a decent level of face-time and visibility at the workplace, these arrangements may still be preferable alternatives to part-time work to gain some temporal and locational flexibility.

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[9] There may also be an inverse U-shaped effect of telehomework on productivity as well. Occasional telehomework may improve productivity due to fewer disturbances at home for example. Employees are not disturbed by colleagues or clients and can therefore better concentrate on their work at home. With frequent telehomework productivity may suffer, however, because communication is hampered, peers cannot help out, or provoke better performance, etc (cf. Mas and Moretti, 2009). This would provide an alternative theoretical explanation for an inverse U-shaped effect of flexibility on career advancement. Nevertheless, this hypothetical inverse U-shaped relation is not supported by our data.

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