

How Do Men and Women Use Extra Time?

Housework and Childcare after the French 35-Hour Workweek Regulation

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Keywords: Housework, childcare, gender, time use, workweek reform, propensity score matching, multitasking, tasks, work hours

Abstract:

This paper analyses how men and women devote their extra time to childcare and housework by exploiting an exogenous shock in scheduling: the partial implementation of the 35-hour workweek reform in France. Using propensity score matching and the most recent time use survey (2010), we show that time reallocations differ by gender and day of the week. While men dedicate their extra time to performing more housework on weekdays in the form of mainly time-flexible tasks such as repairs or shopping, they do less on weekends. This shift from weekends to weekdays is not observed for women who perform day-to-day tasks that are less transferable. Women spend more time on childcare and reduce multitasking. Overall, task specialization by gender is more pronounced, and this gendered use of similar extra time illustrates that time allocation is not only a question of time availability. In particular, men and women “do gender” at weekends, when performing tasks is more visible to others.

Introduction

Despite the increase in women's workforce participation, huge gender inequalities in unpaid work have persisted over time. The dramatic decline in women's unpaid work has not been offset by men becoming more involved, as women still perform the bulk of domestic and parental tasks in all developed countries (Bianchi et al. 2012; Davis and Greenstein 2004; Gimenez-Nadal and Sevilla 2012; Lachance-Gzela and Bouchard 2010). Thus, only the first half of the gender revolution has been fulfilled (Goldscheider et al. 2015).

This gender gap is explained mainly by three theoretical approaches to exploring the allocation of time to unpaid work. First, from the time availability perspective, women's and men's domestic time is linked to time spent on paid work (Bianchi et al. 2000). As men spend more time in the labour market than women, they have less time for housework and childcare. Second, the relative resource theory posits that the division of unpaid work between spouses reflects power relationships in which partners with higher earnings (generally men) relative to their spouses tend to perform less housework and childcare than their spouses (Blood and Wolfe 1960). Finally, taking the gender-based perspective, the time devoted to paid and unpaid work depends on gendered expectations and attitudes regarding unpaid and paid work (Robinson and Milkie 1998).

The major reform to working time enacted by France in the early 2000s provides us with a rare opportunity to test two of these alternative explanations: the time availability theory and the gender-based perspective. This exogenous shock to the work schedule gave working people additional free time in that it reduced their working time by approximately 10% (from 39 to 35 hours per week) – with no reduction in income. Since the reform had no income effects, the relative bargaining power of partners was not affected; we can thus disregard the theory of relative resources. Being able to eliminate the possible confounding effects of

income strengthens the study. We analyse *how* and *when* female and male workers used the same amount of time freed up by the reform. Do men and women reallocate these extra four hours per week in a similar way, which would be in accordance with the time availability perspective? Or do gender differences in time reallocation persist, which would instead support the gender-based perspective?

To answer these questions, we adopt a broad approach to studying changes in time allocation. The significant relaxation of time constraints may affect not only the duration of unpaid work, but it may also result in a re-allocation of time by shifting some tasks from weekends to weekdays – depending on their time-flexibility – or by changing the number of tasks that are performed simultaneously with others. To consider the possible shifting of tasks and that some of them may be more easily shifted than others, we distinguish between the schedule of activities (weekdays and weekends), the type of tasks (time-flexible vs. time-inflexible tasks), and the propensity for multitasking. Since it may take time to change domestic habits and re-allocate time, we analyse the medium-term effects of the reform – namely seven years after the final phases of the reform were introduced – in which time individual routines and task-specific skills could have changed.

Our work contributes to the literature in four ways. First, it is one of the first studies to evaluate the consequences of the French workweek reform in the private sphere. Up to now, evaluation studies have focused on its labour market consequences.

Second, this is the first analysis using a quasi-experimental approach to time use in the European context. Because observing individual variations in time use from date to date is rarely possible because of a lack of time use panel surveys, this article uses an historical and exogenous change in working hours. The reform took a long time to enact and the process was halted. The article uses the most recent French time use survey to exploit the discrepancies between beneficiaries and non-beneficiaries as matched by propensity score in

order to evaluate the quantitative impact of the reform by gender on workers' non-market schedules.

Third, this article tests two well-known competing theories on the allocation of time to unpaid work and thus helps to explain the persistence of the gender gap in domestic time. Given that this natural experiment of workweek reduction was similar for male and female full-time workers, it provides an opportunity to test whether the use of extra time is gender-neutral – according to the assumption of time availability theory – or if the time use adjustments are gender-stereotyped – which is in line with the gender perspective.

Fourth, this article is not limited to observing changes only to the amounts of time spent on tasks but instead examines also when and how they are performed. It does not only compare weekdays and weekends, but it directly analyses multitasking and time transfers of tasks between weekdays and weekends according to their degree of daily necessity.

The French working time reforms

The working time reforms in France followed a sequential process from the late 1990s until they were interrupted toward the end of 2002, thereby affecting only a fraction of the population by the end of the process. The so-called Aubry Acts passed in June 1998 and October 1999 implemented a general reduction of working time without any wage reduction. The objectives were “work-sharing” (i.e. improving employment levels through a reduction in working hours per worker) and improving workers’ well-being. The length of the legal workweek was progressively set from 39 to 35 hours from February 2000 onwards. Companies were first encouraged to reduce working time through financial incentives. Then, within-firm negotiations were made mandatory from January 2001 onwards for private firms employing more than 20 workers and from January 2002 onwards for smaller firms and the

public sector (with the exception of teachers): all were compelled to sign agreements with their employees, bringing the weekly working time in the company to 35 hours.

To incite companies to reduce their working time, overtime was made more expensive.¹ Additionally, counting the hours annually rather than weekly (1,600 hours per year) was made possible. Some workers could also work more than 35 hours a week, with these extra-hours being cumulative (up to a maximum of 4 hours a week), for which they were compensated with extra days off for the overtime. This arrangement is referred to hereafter as "comp time". Managers with genuine autonomy in their work (47% of managers) were also given special status.²

In April 2002, the Conservative government returned to power and ended the process. Several laws were passed to abolish the incentive mechanism of the Aubry Acts, to increase the overtime contingency, and to maintain the reduced cost of overtime in small companies. Nevertheless, the 35-hour legal workweek was not abolished.

According to data from the Ministry of Labour, 21% of firms (representing 58% of workers) had decreased weekly working time to 35 hours in April 2003. The coverage rate of employees was much higher in large firms than in firms employing 20 workers or less: 74% and 23%, respectively. According to branch of activity, the average coverage was highest in industry (73%) and lowest in construction (40%).

Theory and previous results

Two theoretical perspectives

The time availability theory suggests that time spent on unpaid work depends on time spent in the market: the more time individuals spend in the labour market, the less time they spend on

unpaid work (Presser, 1994). As this theory is gender neutral, any exogenous change in working time should have similar effects for men and women. Most empirical studies find that the time individuals spend on unpaid work is negatively associated with their own time in paid employment (Bianchi et al. 2000; Blair and Lichter 1991; Gershuny et al. 2005; South and Spitze 1994).

This theory has been criticized for neglecting that housework and childcare are deeply gendered. According to the gender-based perspective, variations in the same amount of working time have different effects for men and women. An earlier approach to this perspective focuses on the gender roles ideology that is formed during childhood socialization and deeply internalized (Coverman 1985). Empirical research shows that stronger attitudes toward gender equality are effectively associated with more equal division of unpaid work (Aassve et al. 2014). From the perspectives of “gender display” or “doing-gender”, gender-oriented behaviour is not only the result of internalized processes but is rather a result of individuals’ active participation: they perform gender through unpaid work (Berk 1985; West and Zimmerman 1987). The greater involvement of women in unpaid work and that of men in the labour market is a way of affirming their gender identities (Goffman 1977). Men may reinforce their male identities through doing less unpaid and more paid work while, in contrast, women may demonstrate their female identity through performing more housework and childcare. This “gender display” explains why women – even when they are single or in childless couples – spend more time on unpaid work than do men. From the “compensatory gender-display perspective”, couples may even compensate for a gender-atypical situation (e.g. when the wife is the main breadwinner) by adopting a traditional division of labour (Brines 1994). Some empirical studies show that women perform more housework when they work more than their partner, for instance, in cases of the men being unemployed (Gough and Killewald 2011; Solaz 2005) or when both are working but the women earn more (Greenstein

2000). However, this “compensatory gender-display perspective” is challenged by studies that find absolute earnings to be a better predictor of housework than relative earnings (Gupta 2007; Killewald and Gough 2010).

The nature and timing of unpaid work

Theories accounting for gendered divisions of unpaid work also highlight the nature of unpaid work. Bianchi et al. (2012) argue that studying the gender division of housework in relation to that of childcare helps to better understand gender inequality. Since childcare is one of the most pleasurable unpaid work activities and has greater meaning than housework, they should be considered separately (Sullivan 2013). Gender asymmetry occurs also in the household tasks performed. Women remain responsible for routine and repetitive household tasks while men perform more discretionary tasks that can be scheduled to fit with other commitments (Blair and Lichter 1991).

Recent research also examines *when* tasks are performed, especially those done on weekdays or weekends (Gupta and Sayer 2015, Hook 2017). From a time availability perspective, time constraints vary according to the day of the week and are lower when individuals are free from professional constraints, thus leading to domestic tasks being transferred to the weekends. Some routine tasks are more transferable than others, depending on their degree of daily necessity. Cooking and childcare are particularly inflexible: they must be completed daily and at fixed times, while cleaning and laundry can be temporarily left undone and more easily moved from one day to the next, which means that workers can thus perform these tasks on the weekends. Hence, the longer women work on weekdays, the more time they spend on weekends doing time-flexible domestic work (Gupta and Sayer, 2015). Women also “do gender” on weekends, when the display of gender through housework is more visible (Hook 2017). Since tasks generally performed by women are those with little flexibility, these can also spill over into time allocated to other activities. Doing several activities at once (i.e.

multitasking) can be a means for meeting the needs of the household within a limited time frame (Sayer et al. 2009).

Concern about endogeneity bias

The previously cited studies treat labour market hours as exogenous and their methodology does not address potential endogeneity, although some discuss it (Gough and Killewald 2011; Gupta 2007; Hook 2017; Killewald and Gouth 2010). However, changes in working hours are rarely exogenous to individual characteristics or choices, and working time and housework time are jointly determined. Hence, women may reduce their working hours because they feel compelled to spend more time on household labour, for instance after childbearing. Moreover, these changes in working time are generally concomitant with income changes, making it difficult to disentangle the time effect from the income effect on time allocated to unpaid work.

One way to overcome these methodological difficulties is to use exogenous shocks in time endowments, which are very rare. Aguiar et al. (2013) evaluate the reallocation of time use during the Great Recession by using cross-state variations in the changes in market work as an identification strategy. Roughly 30% of the foregone working time was reallocated to housework, with no difference across genders, and 50% to leisure. Hamermesh (2002) uses 1990 Dutch time data to evaluate the impact of having one extra hour when the clocks are changed in autumn. Here, he compares the time use diaries on the Sunday that the Netherlands reverted to winter time with those of the previous Sunday. This non-permanent and anticipated available extra time was used for additional sleep, except among unmarried men, who used it for leisure.

A few studies analyse the effect of changes in the legal workweek on time spent on non-working activities. Kawaguchi et al. (2013) evaluate how Japanese and South Korean workers spent their time on leisure, personal care and household production following reforms

imposing a decrease in statutory working hours in the 1990s and early 2000s, respectively (weekly working hours were cut by 8 hours in Japan, 4 hours in Korea). By using matching techniques to infer causality, they show that those affected by the reform in Japan had decreased unpaid work time – except on Saturdays – and increased leisure time; while in Korea they had increased household production throughout the whole week and increased leisure on Saturdays. Gender effects are not explored.

In France, a survey was conducted on 1,618 employees affected by the first Aubry reform, i.e. employees of pioneering companies that were highly selected since the working time reduction was not yet mandatory. Individuals, mostly women, reported shifting activities to weekdays and having more time for rest, repairs, gardening and childcare (Cette et al. 2004). A large proportion of dual-earner parents with young children – especially those with standard working hours – reported that the reform had improved their work-family balance (Fagnani and Letablier 2004). Based on subjective assessments, this survey did not measure how much time was moved between activities and days of the week.

Our study aims to go further by using a nationally representative sample and identifying the causal effect of working hours on non-market time allocation in the European context, where time constraints and gender relations are very different from Asia. We consider the exogenous variation in market work hours created by the French reform and examine how full-time female and male employees use this extra time. By giving the same amount of free time to female and male beneficiaries, this reform allows us to compare how women and men use this additional time for non-market activities and to test the way time availability and gender condition the allocation of household tasks. The emphasis that we place on shifting tasks between weekdays and weekends and on multitasking allows us to provide a more complete picture of time organization.

Hypotheses

According to the time availability perspective, *extra time provided by the 35-hour workweek should lead to more housework, especially to childcare, with less multitasking and no gender differences in the way this additional time is used (H1a)*. Since men and women benefit from the same amount of extra time for the same wage, they should allocate this extra time to alternative activities in the same ways. As the 35-hour workweek relaxes the time constraints on weekdays, some housework time may thus be shifted to weekdays in order to devote more time to family or to leisure on weekends: *we should observe among both men and women affected by the reform that more time is devoted to housework on weekdays and less (or no variation) on weekends (H1b)*. *These variations by day of the week should be higher for time-flexible tasks (such as cleaning, shopping, repairs and gardening) than for time-inflexible tasks (such as cooking and childcare) (H1c)*.

On the other hand, from a gender-based perspective, we would expect different effects for men and women because gender conditions the way men and women adjust their time in response to the reform. *After the reform, women should devote more additional time than men to housework and caregiving (H2a)*. Thus, the reform would exacerbate the gendered nature of time use. According to the gender display perspective, individuals demonstrate their gender identity by performing specific tasks, especially during weekends, because this is much more visible to family members or friends. *Thus, the increase in gendered activities should be even higher on weekends (H2b)*.

Methods

Data and sample

We use the most recent French time use survey, which represents a unique source of information on daily activities. This nationally representative survey of 18,380 respondents

was conducted by the National Institute of Statistics and Economic Studies (INSEE) over a one-year period in 2009-2010, following the reform. Randomly selected individuals aged 11 and older were interviewed, as well as their spouses if they had any. The face-to-face interviews collected detailed information on the background and socio-economic status of individuals and households. Apart from this interview, 11,765 individuals kept two 24-hour time diaries (one for weekdays and another for weekends), which were divided into 10-minute intervals and with the days being randomly distributed among weekdays and weekend days. These described the main activities carried out and concurrent activities. 4,340 randomly chosen individuals completed only one diary (either on weekdays or on weekends), because they were responding to another complementary survey.³

To investigate the effect of the workweek reduction, we selected workers who were likely to be concerned by the reform. Among the 7,953 full-time⁴ working people interviewed, we excluded those with missing value on professional status ($N = 30$) and those self-employed ($N = 1,060$) and thus not concerned. Teachers ($N = 991$) were also omitted, since they were not affected and their working hours are too specific to be used in the control group, nor can they be compared with the beneficiaries of the reform. The sample of full-time wage-earners possibly affected by the reform consists of 5,872 individuals (5230 of whom completed at a least one diary).

Dependent variables

We concentrate on the daily time (in minutes) spent on a primary activity by using standard aggregated definitions of activities. *Paid work* covers employment-related activities, including work breaks. *Personal maintenance* – eating, sleeping, washing, etc. – is distinguished from pure *Leisure activities* (e.g., sport, cultural activities, exercising or socializing). We separate *Housework* from *Childcare* and disaggregate housework activities into time-inflexible tasks (all together: cooking, setting the table and washing the dishes) and more flexible tasks

(cleaning and laundry; shopping; doing repairs and gardening; and bookkeeping). Similarly, we distinguish time-inflexible childcare (feeding, washing, homework supervision, reading, conversations, and transportation of children) from flexible childcare (playing games, artistic activities, sport, and excursions). Multitasking is measured as the total time spent on secondary activities.

To examine time-adjustments, we compare weekday and weekend diaries. Additionally, we use seven questions from the face-to-face interviews on shifting tasks from weekends to weekdays. The respondents were asked if during the week preceding the interview they had performed – either on weekdays, weekends, both weekdays and weekends, or never – any of the following tasks: shopping, cooking, washing dishes, cleaning, ironing, repairs and gardening.

Propensity score matching

Conducting an analysis using propensity score matching (PSM) methods consists of comparing outcomes between a treated sample and a control sample. Though inferring causal inference with matching methods is debatable because of possible unobserved confounders (Liu et al., 2013), PSM is still a good tool for comparing groups with similar characteristics and imposing fewer restrictions on the functional form of the relationship linking outcomes and covariates than conventional regressions (such as linearity in the OLS model) . In our case, some workers were covered by the 35-hour workweek (treated) while others were not (untreated). The definition of two comparison groups is based on whether or not workers belong to a firm that has implemented (or not) the 35-hour workweek at the time of the survey. To define the control group, we condition on firms and employees characteristics– as workers do not allocate randomly to firms – and use PSM methods to match workers in firms affected by the 35-hour reform with those who are not.

We would like to estimate the average treatment effect on the treated (ATT). The ATT can be interpreted as the average difference in time use of individuals who benefited from the workweek reduction compared to their time use had they not been affected by the reform. This latter time, called the counterfactual time use, is not observed but can be estimated. Under the assumption that assignment to the treatment is not correlated to possible outcomes (conditional independence assumption), any differences observed in average time use between treated and controls can be ascribed to the workweek reform.

Definition of beneficiaries and non-beneficiaries of the reform

To define the treated and untreated among selected full-time wage earners, we used individual information on usual weekly working hours and comp time, as no direct information is available on the legal workweeks of firms.⁵ The untreated group is composed of individuals who work 39 hours or more per week and do not have comp time ($N = 1,349$ among which 1,174 completed at least one diary i.e., 1,807 diaries). This last group is not affected by the reform. The treated group comprises individuals who work 35 hours a week and report working full-time with no comp time ($N = 1,299$ among which 1,162 completed 1,850 diaries). It is most likely that these employees belong to firms that have applied the option of reducing working time. Blurred cases are not taken into account, for instance when weekly working time ranges between 36 and 38 hours ($N = 766$) or is less than 35 hours ($N = 220$).

The matching procedure

Propensity scores (i.e. the theoretical probability of treatment) by gender and weekday are estimated with probit models, which include covariates that might affect both the treatment and the outcomes: age, number of children below 18, educational level (5 levels), conjugal status (single or in a relationship), occupation (manual worker, clerical worker, intermediate or higher-level occupation), tenure (in years), wage (in quintiles⁶), working schedules (atypical schedules, flexible time schedule), and several indicators describing the firm: size (4

categories), public/private sector, and branch of activity (7 categories). Appendix A.1 describes all covariates for the treated and untreated groups by gender. To assess group-specific effects of workweek reduction across weekdays and gender, we match individuals of the same sex and who were interviewed the same type of day (Dehejia 2005).⁷

A Gaussian kernel estimator with a Silverman (1986) window was used to build and weight the sample of controls based on the propensity score.⁸ Two other alternative algorithms were also tested: the nearest neighbour; and all the neighbours within a defined distance, known as caliper matching (here, we used 0.02 as the distance but also tried others, which gave very similar results; see Supplementary material S.1).⁹ Bootstrapping (200 iterations) was carried out to compute the standard errors. Propensity estimations (associated with the results in Table 2) are presented in Appendix A.2.

The common support is very good: as shown in Supplementary material S.2, the smoothed densities of the propensity scores for treated and controls by gender overlap sufficiently. In other words, treated and control populations share enough common traits, which facilitates the matching process. The balancing tests, which check the quality of the match, are also satisfied (Supplementary material S.3). T-tests for equality of means between the treated and control groups show no difference after matching for all the variables included, with the exception of being in a relationship and belonging to first income quintile that are slightly different after matching. The variances in both populations are also similar (expressed by the % bias). The standardized bias after matching is also less than 5% for most items after matching.

Robustness checks

The validity of the matching method is based on the exogeneity of the treatment, conditionally on observable variables, and this assumption may be open to question. One can argue that being affected was quite exogenous before 2002 – since it was not possible to anticipate which firms would implement the reform and all companies were supposed to have adopted

it; but this would be less the case after 2002, when the process was halted. Our strategy cannot rule out, one, that workers might have different unobserved preferences for leisure or unpaid work and, two, that they may have applied some discretion in choosing to work in a firm that did or did not adhere to the 35-hour workweek. Taken together, these two factors may violate the conditional independence assumption. However, it is unlikely that workers with a preference for leisure changed firms in order to reduce their working hours. The share of workers who changed firms since the reform was implemented (during the last 7 years) is very similar for treated (46%) and controls (49%). We control for many individual characteristics such as educational level, tenure, family situation and wage, thus allowing us to capture the maximum of this possible heterogeneity among workers. Moreover, as a robustness check, we apply the model on the reduced sample of workers who were already in the firm when the reform was implemented and who, in addition, did not change firms since then.¹⁰

Since the 35-hour/week rule can in some cases be annualized and replaced by working 1,600 hours/year (e.g. 39 hours for some weeks and 30 hours for others), we also perform a sensitivity analysis by excluding these workers (5% of the sample). We implement additional sensitivity analyses for an alternative group of treated, i.e. individuals who work 39 hours or more per week and enjoy comp time.

Results

Table 1 reports time use for treated and controls, and the difference between them (ATT) for men and women separately. The last column indicates whether the ATT differs significantly by gender. Female and male workers who benefit from the reduced working time spend less time at work than controls (on an average representative day, 42 minutes less for men and 34 minutes for women, with no significant difference between genders). This roughly

corresponds to a workweek reduction from 39 to 35 hours ($42*7=294$ min and $34*7=238$ min, which corresponds, respectively, to 5 and 4 hours per week). Men and women who work a 35-hour week spend more time on leisure than comparable men and women who work 39 hours and more. This difference in leisure time is higher on weekdays than on weekends (not significant for both sexes) and, whatever the day, it is higher for men than for women (28 minutes for men and 16 minutes – not significant – for women on weekdays).

On an average day, men who work 35 hours a week spend significantly more time doing housework (12 minutes) than controls, while there is no significant difference for women in terms of doing housework. Men spend more time on flexible tasks such as repairs, gardening, bookkeeping, and recreational childcare, whereas women devote more time only to time-inflexible childcare (5 minutes more).

The difference in total housework between treated and controls is more pronounced on weekdays than on weekends, especially for men. Men who work 35 hours a week spend more time doing housework on weekdays (19 minutes more daily) than men in the control group. This difference between treated and controls for weekdays is much higher than that for women (+4 minutes, not significant). Men dedicate this additional time to the most flexible tasks of gardening and repairs (14 minutes more per weekday), and, to a lesser extent, to shopping (6 minutes more) and bookkeeping (4 minutes more). Treated women spend 9 minutes more than controls on time-inflexible childcare.

Men seem to reorganize their time use over the week. The additional time spent on repairs and shopping activities during weekdays is offset mostly by less time spent on time-flexible activities such as shopping (11 minutes less) and cleaning (7 minutes less) during weekends. While treated men spend less time than controls on domestic tasks and childcare at weekends, treated women devote more time to time-inflexible childcare than do controls. This, together

with more time dedicated to paid work for men, suggests they “do gender” at weekends, when the performance of tasks is more visible to others.

The reform’s contribution is mixed in regard to reducing gender differences in housework. On the one hand, the gender gap is less pronounced for beneficiaries of the workweek reduction on weekdays (45 minutes more for women than for men) than it is for the control group (60 minutes). On the other hand, given the shifts in time from weekends to weekdays for men, combined with the stability or slight increase for women, the gender gaps in housework and childcare are greater on weekends for reform beneficiaries than for controls. Women who work 35 hours spend less time on multi-tasking (41 minutes less during weekdays). They can fully enjoy their leisure activities (mainly watching TV) without having to perform another task at the same time. This decrease in multi-tasking occurs only on weekdays, which reflects the significant relaxation of time constraints for women as a result of the reform.

{Table 1 approx. here}

Table 2 focuses on time allocation over the week and displays the self-declared weekly schedule for seven domestic tasks performed in the week before the interview, for treated and controls. It confirms the gender asymmetry in the tasks performed (among those treated as controls, most women never do repairs while most men never do the ironing) while also indicating the time of the week they are performed (most women do the cooking, washing-up and cleaning on a daily basis). As concern the reform, men who work 35 hours do more housework than men in the control group: they are less likely to answer that they “never” do a task (significant for shopping and gardening). They also more often do tasks exclusively on weekdays (washing-up and shopping), thus less often on weekends only. They also more often do repairs both on weekdays and weekends instead of only on weekends.

The scheduling of tasks over the week according to whether they work 35 hours is different for women. Those working 35 hours a week perform flexible domestic tasks exclusively on weekends less frequently than do controls (significant for cleaning and shopping). For the less flexible domestic tasks that women usually perform on both weekends and weekdays (cooking and doing the dishes), few schedule differences are observed since they are hardly transferable from one day to another.

{Table 2 approx. here}

Sensitivity analyses

The robustness check on the specific sub-sample of wage-earners who were employed in the same company at the time of the reform produces results that are very close to those previously obtained from the full sample – although they are less accurate, due to the reduction in sample size – (Table 3). The main results are confirmed, namely, that men spend more time on repairs and gardening on weekdays, and women on childcare on both weekdays (not significant) and weekends. Excluding workers with annualized working hours does not change the results either (Appendix A.3).

{Table 3 approx. here}

The other option of the reform (i.e. comp time; see Appendix A.4) also has similar but weaker effects on weekdays. Since in this case the reform consists in giving days off, either sporadically or as additional leave, these extra days off are less likely to affect the distribution of tasks between weekends and weekdays when compared to effects of freed-up hours during the week, as in the case of the reduced work week. Men with comp time perform more housework (repairs and gardening, but also cooking, cleaning, and doing laundry) than men who work 39 hours on weekdays. Conversely, women with comp time have similar behaviour to controls on weekdays,¹¹ but they instead overinvest in parental and domestic activities

during weekends – as already observed for women working 35 hours, which is in line with the “doing gender” perspective.

Summary

All these results together support the gender-based perspective rather than the time availability theory. Though our first hypothesis is partly confirmed – extra time provided by the 35-hour workweek leads to more housework and childcare and less multitasking (H1a), which is consistent with the time availability perspective – the way this additional time is used is strongly gendered, which supports hypothesis H2a (that gender conditions the way men and women adjust their time in response to the reform). Hence, women perform more childcare while men concentrate their household labour on repairs and gardening. Moreover, the reform did more than simply change the amount of dedicated to domestic time; rather, it clearly modified the distribution of activities between weekdays and weekends. Beneficiaries of the workweek reduction took advantage of their freed-up time during weekdays to do part of their domestic workload, probably in order to free up more time on weekends (H1b), especially for time-flexible tasks (H1c). However, these task shifts occurred only for men. Consequently, activities became more gendered on weekends, which validates hypothesis H2b. Male beneficiaries performed new tasks on weekdays, but their overall time involvement still corresponds to the traditional allocation of tasks. On average, men devoted more time to the most time-flexible tasks such as repairs or shopping. Their higher investment during weekdays is counterbalanced by a weaker investment during weekends, especially in terms of cleaning and doing the laundry. Men and women who benefited from the reform thus tend to affirm their gender identities at weekends, when performing tasks is more visible to others and thereby falling in line with the predictions of the “gender display” theory.

Conclusion and Discussion

This study investigates how male and female full-time workers use extra time by examining an “exogenous” relaxation of working time. In addition to examining the partial implementation of the French 35-hour workweek regulation as an identification strategy, this article further applies propensity score matching to the most recent French time-use survey to show how an additional 4 hours per week has led to a reallocation of non-market activities for both men and women, not only in terms of duration but also in terms of organization throughout the week and in the type of tasks to be carried out.

Not surprisingly, this reform has provided additional leisure for men and women, which concurs with previous findings (Aguiar et al. 2013; Cette et al. 2004; Hamermesh 2002; Kawagushi et al. 2013). Men and women also use part of their extra time for domestic and parental activities, but not in the same way. This asymmetry by gender is consistent with that found by Gough and Killewald (2011) in a rare study that analyses the gender effects of extra time during unemployment.

As the reform concerns working time, it has affected weekday schedules more than weekend schedules. Men spend more time doing housework on weekdays, mainly on time-flexible and discretionary tasks such as repairs, gardening and shopping. A share of these additional tasks – which were usually performed on weekends – have now shifted to weekdays, thanks to the relaxation of time constraints. Though the workweek reduction has enabled men to invest more in the domestic sphere during weekdays, the types of tasks they perform continue to be largely specialized by gender, and this gender segregation has even been reinforced by the reform.

Women do not use their additional free time to perform housework to which they already devote a lot of time. As women generally perform more routine and thus less flexible tasks than men, the reform has caused little reallocation of time from weekends to weekdays, unlike

what occurs with men. However, female beneficiaries significantly reduced the time they spent on multitasking during weekdays, which indicates a relaxation of time pressure and mental workload (cf. Fagnani and Letablier 2004). They spend more time with their children (cf. Cette et al. 2004), both on weekdays and weekends. The magnitude of this increase in parental time – around 5 minutes per day – is quite significant with respect to long-term trends: between 1985 and 2010, time spent daily by women on childcare increased by just 13 minutes (Champagne et al. 2015). This shows that additional time is reallocated to quality time and investment in children rather than to more monotonous core housework tasks. This result is in line with the increasing trend of spending more time on parental activities over time, which has been observed in developed countries (Bianchi et al., 2006; Gauthier et al., 2004). This reallocation of time confirms the evolution of parenting standards. Children receive more parental attention and time because parental investment is now considered to be a necessity, and this in turn is beneficial for children's emotional development (Waldfogel et al. 2002).

This specific use of the same amount of additional time by men and women illustrates that time allocation is not only a question of time availability, but that it is also deeply gendered. Reallocation of time corresponds to gender stereotypes and norms, with women's additional activities being devoted mainly to routine and non-flexible housework and childcare while men perform the most discretionary activities. The behaviours of male and female beneficiaries during weekends is particularly illustrative of the “doing gender” theory, with an overinvestment in socially expected tasks (work for men, childcare for women) and an underinvestment in socially unexpected tasks (housework for men).

This study has some limitations. First, the sample sizes are rather small, which means that few results are significant and that a deeper analysis of some subgroups is ruled out. It would have been interesting to focus on parents or to investigate more the within-couple organization of

time, depending on whether or not the spouse is affected by the reform. Some activities that are hard to postpone may have been transferred not between days of the week but instead between partners. The reform might also have had different effects according to social class or level of education, as social differences may be more pronounced in terms of time allocation of housework and childcare. Second, the sample of full-time employees is selected, especially for women. This may reflect the most work-oriented women while, in contrast, the effects of the reform could be different for the population of working women as a whole. However, one can imagine that the gender segregation of tasks would have been even greater if women working part-time had been included. Finally, we focused on the medium-term effects of the reform because behaviours and habits take time to change. However, during the seven-to-eight-year gap between the implementation of the reform (2002) and the survey date (2009-2010), behaviours could have changed among the whole population through changing preferences for leisure among non-beneficiaries. Individuals whose firms did not implement the workweek reduction may invest less in work in order to have more leisure – if they have flexible working schedules. Because of this possible diffusion process, the significant differences between beneficiaries and non-beneficiaries over the medium term may be smaller than those that would have been observed just after the reform.

Despite the limitations just mentioned, this article shows that the shortening of the legal workweek, which was implemented mainly to reduce unemployment, had significant knock-on effects on people's personal lives. Whereas the reform's impact on reducing unemployment remains debatable, it has nevertheless generated additional free-time, which in turn has relaxed schedules and reduced work-family tensions by providing more social and family time – including whatever gender differences that may exist in terms of level and timing.

Gender asymmetry as a response to extra time is highly instructive for understanding the incomplete gender revolution. Though the employment policy was gender-neutral, free time is used differently by men and women, with male beneficiaries becoming increasingly involved in domestic activities although gender-stereotyped activities are still reinforced. Thus, policies not directly aimed at reducing gender inequalities may have gendered effects, which should urge policymakers to thoroughly consider the effects that any public policy may have on gender equality.

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Tables

Table 1: Effect of 35-hour workweek on time-use (mins. per day) by sex and day type (weekday or weekend) with a kernel estimator

	Women			Men			Gender Diff. P-value
	Treated	Controls	ATT	Treated	Controls	ATT	
<i>All days</i>							
Paid work	262	296	-34 ***	277	319	-42 ***	0.00
Leisure	260	239	21 **	329	301	28 ***	0.22
Personal maintenance	631	632	-1	622	621	1	0.00
Housework	160	158	2	105	93	12 **	0.00
Cooking & washing up	54	57	-3	22	23	-1	0.00
Cleaning & laundry	56	57	-1	17	18	-1	0.07
Shopping	27	26	1	15	14	1	0.78
Repairs & gardening	10	7	3	39	27	12 ***	0.00
Bookkeeping	6	6	0	7	3	4 ***	0.01
Other	7	5	2 *	7	9	-2	0.19
Childcare	33	28	5	21	18	3	0.74
Routine childcare	29	24	5 *	15	14	1	0.10
Flexible childcare	5	5	0	5	3	2 *	0.01
Multitasking	279	285	-6	248	231	17	0.43
<i>N diaries</i>	902	667		948	1140		
<i>Weekday</i>							
Paid work	329	373	-44 ***	373	430	-56 ***	0.07
Leisure	213	197	16	258	230	28 **	0.13
Personal maintenance	621	612	9	602	594	8	0.96
Housework	142	138	4	97	78	19 **	0.00
Cooking & washing up	51	52	-1	21	22	-1	0.26
Cleaning & laundry	50	50	0	12	12	0	0.08
Shopping	20	20	0	14	9	6 **	0.56
Repairs & gardening	9	7	2	36	22	14 ***	0.00
Bookkeeping	6	5	1	6	2	4 **	0.01
Other	7	4	3	7	10	-3	0.13
Childcare	42	33	9 **	19	18	1	0.21
Routine childcare	38	29	9 **	16	15	1	0.09
Flexible childcare	4	4	0	3	3	0	0.52
Multitasking	254	295	-41 **	227	249	-21	0.85
<i>N diaries</i>	496	367		518	656		
<i>Weekend</i>							
Paid work	86	96	-10	95	68	27 **	0.50
Leisure	368	368	0	447	441	6	0.12
Personal maintenance	671	672	-1	663	676	-13	0.30
Housework	196	197	-1	133	148	-15	0.07
Cooking & washing up	62	64	-2	28	27	1	0.00

Cleaning & laundry	77	78	-1	23	30	-7 *	0.92
Shopping	33	36	-3	21	32	-11 **	0.39
Repairs & gardening	14	9	5	46	46	0	0.29
Bookkeeping	4	5	-1	5	4	1	0.85
Other	8	5	3	10	9	1	0.78
Childcare	33	26	7	19	21	-2	0.06
Routine childcare	27	18	9 **	12	15	-3	0.86
Flexible childcare	6	8	-2	7	6	1	0.00
Multitasking	308	338	-30	297	301	-4	0.09
<i>N diaries</i>	<i>406</i>	<i>300</i>		<i>430</i>	<i>484</i>		

Data: INSEE, Time Use Survey, 2009-2010

*p < .10; **p < .05; ***p < .01.

Standard errors of ATT are computed by bootstrap estimations (200 iterations) for the weekday and weekend models. This could not be done for the model on all days, since we have to use diary weights in addition to kernel estimation weights. We performed a regression and reported the treatment variable estimation and significance. That is why means for all days and separate days are not directly additive. The last column indicates the significance level of the sex interaction term between being treated and sex in a model on both sexes for each outcome.

Table 2: Effect of 35-hour workweek by sex on distribution of tasks during the week (%) with a kernel estimator

		Women			Men		
		Treated	Control	ATT	Treated	Control	ATT
Cooking	Never	9%	12%	-3%	39%	40%	-1%
	Only on weekdays	7%	3%	4% **	15%	12%	3%
	Only on weekend	2%	2%	0%	3%	5%	-2%
	Weekdays and weekends	83%	83%	0%	43%	43%	0%
Dishes	Never	16%	16%	0%	38%	42%	-4%
	Only on weekdays	5%	5%	0%	12%	6%	6% ***
	Only on weekend	2%	2%	0%	3%	4%	-1%
	Weekdays and weekends	77%	77%	0%	46%	47%	-1%
Cleaning	Never	7%	6%	1%	45%	48%	-3%
	Only on weekdays	19%	17%	2%	16%	14%	2%
	Only on weekend	13%	17%	-4% *	13%	16%	-2%
	Weekdays and weekends	61%	60%	1%	26%	23%	3%
Ironing	Never	33%	32%	1%	86%	86%	0%
	Only on weekdays	31%	31%	0%	5%	4%	1%
	Only on weekend	13%	18%	-5%	4%	5%	-1%
	Weekdays and weekends	23%	18%	5%	5%	5%	0%
Shopping	Never	15%	14%	1%	30%	35%	-5% *
	Only on weekdays	40%	40%	0%	28%	23%	6% **
	Only on weekend	7%	11%	-4% **	9%	11%	-2%
	Weekdays and weekends	38%	35%	3%	33%	31%	2%
Repairs	Never	89%	89%	-1%	48%	52%	-4%
	Only on weekdays	4%	4%	0%	14%	12%	2%
	Only on weekend	4%	4%	0%	15%	18%	-3%
	Weekdays and weekends	3%	2%	1%	23%	18%	5% *
Gardening	Never	81%	78%	3%	72%	77%	-5% *
	Week only	6%	4%	2%	7%	6%	1%
	Weekend only	7%	9%	-2%	9%	8%	1%
	Both	6%	8%	-2%	12%	9%	3%
<i>N Individuals</i>		617	485		682	864	

Data: INSEE, Time Use Survey, 2009-2010

*p < .10; **p < .05; ***p < .01. Standard errors are computed by bootstrap estimations with 200 iterations.

Table 3: Effect of 35-hour workweek on time-use (mins. per day) by sex and day type (weekday or weekend) with a kernel estimator; sample restricted to those who are in the firm for at least 8 years

		Women			Men		
		Treated	Controls	ATT	Treated	Controls	ATT
<i>All days</i>	Paid work	248	305	-59 ***	279	296	-17
	Leisure	252	209	57 ***	314	296	18
	Personal maintenance	624	635	-11	623	626	-3
	Housework	193	171	12	121	120	1
	Cooking & washing up	61	60	1	24	27	-5
	Cleaning & laundry	66	64	2	20	25	-4 *
	Shopping	29	29	0	15	16	-1
	Repairs & gardening	9	8	1	49	37	12
	Bookkeeping	6	4	2	6	4	3 **
	Other	9	5	4 ***	8	11	-3
	Childcare	31	24	7	21	18	3
	Routine childcare	25	16	9 ***	15	15	0
	Flexible childcare	5	7	-2	5	2	3 **
	Multitasking	286	303	-17	230	239	-9
	<i>N diaries</i>		433	321		425	432
<i>Weekday</i>	Paid work	324	373	-49 *	377	431	-54 ***
	Leisure	216	183	34 **	241	244	-3
	Personal maintenance	619	617	2	605	590	15
	Housework	158	149	9	110	81	29 ***
	Cooking & washing up	58	57	1	22	22	0
	Cleaning & laundry	55	50	5	10	11	-1
	Shopping	22	26	-4	16	9	7 *
	Repairs & gardening	10	8	2	47	23	24 ***
	Bookkeeping	5	4	1	6	3	3
	Other	8	4	4 *	9	12	-3
	Childcare	37	29	7	20	19	1
	Routine childcare	32	23	9	15	16	-1
	Flexible childcare	5	6	-2	4	2	2
	Multitasking	252	307	-55 †	219	241	-22
	<i>N diaries</i>		237	178		234	253
<i>Weekend</i>	Paid work	71	85	-14	79	55	24
	Leisure	364	347	17	455	415	40
	Personal maintenance	667	670	-3	660	690	-30
	Housework	219	229	-10	153	179	-26
	Cooking & washing up	70	69	1	30	31	-1
	Cleaning & laundry	89	99	-9	28	41	-13 *
	Shopping	35	41	-6	24	36	-12

Repairs & gardening	9	11	-2	55	53	2
Bookkeeping	4	3	1	5	4	1
Other	11	5	6 *	12	14	-2
Childcare	30	23	8	16	16	0
Routine childcare	27	11	16 ***	12	13	-1
Flexible childcare	3	11	-8	5	4	1
Multitasking	314	322	-8	272	289	-17
<i>N diaries</i>	<i>196</i>	<i>143</i>		<i>191</i>	<i>179</i>	

Data: INSEE, Time Use Survey, 2009-2010

*p < .10; **p < .05; ***p < .01. Standard errors are computed by bootstrap estimations with 200 iterations.

Appendix

Table A.1: Sample description by sex

	Women				Men			
	Treated		Untreated		Treated		Untreated	
	Mean	<i>Std.</i>	Mean	<i>Std.</i>	Mean	<i>Std.</i>	Mean	<i>Std.</i>
Weekday	0.710	(0.454)	0.686	(0.464)	0.694	(0.461)	0.739	(0.439)
In a relationship	0.631	(0.483)	0.734	(0.442)	0.717	(0.451)	0.720	(0.449)
Age	39.15	(11.46)	43.30	(10.11)	38.66	(10.81)	38.92	(11.50)
1 child <18	0.248	(0.432)	0.226	(0.419)	0.225	(0.418)	0.256	(0.436)
2 + children <18	0.211	(0.408)	0.217	(0.413)	0.288	(0.453)	0.279	(0.449)
No qualifications	0.140	(0.347)	0.226	(0.419)	0.261	(0.439)	0.188	(0.391)
Vocational	0.405	(0.491)	0.370	(0.483)	0.469	(0.499)	0.427	(0.495)
Secondary	0.227	(0.419)	0.120	(0.326)	0.075	(0.263)	0.112	(0.315)
Tertiary short	0.135	(0.342)	0.121	(0.326)	0.136	(0.343)	0.111	(0.314)
Tertiary long	0.093	(0.291)	0.163	(0.369)	0.060	(0.237)	0.163	(0.370)
Higher-level	0.036	(0.185)	0.140	(0.348)	0.044	(0.206)	0.232	(0.422)
Intermediate	0.227	(0.419)	0.140	(0.347)	0.187	(0.390)	0.256	(0.436)
Clerical worker	0.577	(0.494)	0.637	(0.481)	0.233	(0.423)	0.115	(0.319)
Manual worker	0.160	(0.367)	0.083	(0.276)	0.536	(0.499)	0.398	(0.490)
Tenure	9.274	(8.759)	10.25	(9.133)	9.818	(9.819)	9.093	(9.014)
quintile_1	0.483	(0.500)	0.395	(0.489)	0.334	(0.472)	0.149	(0.357)
quintile_2	0.266	(0.442)	0.225	(0.418)	0.351	(0.477)	0.235	(0.424)
quintile_3	0.129	(0.319)	0.107	(0.310)	0.144	(0.351)	0.161	(0.368)
quintile_4	0.115	(0.298)	0.126	(0.332)	0.112	(0.315)	0.212	(0.409)
quintile_5	0.098	(0.191)	0.146	(0.354)	0.059	(0.236)	0.242	(0.428)
Non-standard schedules	0.445	(0.497)	0.343	(0.475)	0.306	(0.461)	0.342	(0.474)
Flexible schedules	0.129	(0.336)	0.201	(0.401)	0.085	(0.279)	0.278	(0.448)
Firm size missing	0.033	(0.179)	0.060	(0.238)	0.040	(0.196)	0.022	(0.147)
<10 employees	0.270	(0.444)	0.442	(0.497)	0.169	(0.375)	0.317	(0.465)
10-49 employees	0.306	(0.461)	0.251	(0.434)	0.253	(0.435)	0.334	(0.472)
50-199 employees	0.190	(0.392)	0.155	(0.362)	0.294	(0.456)	0.151	(0.359)
200-499 employees	0.115	(0.319)	0.043	(0.204)	0.114	(0.318)	0.080	(0.272)
>500 employees	0.086	(0.281)	0.049	(0.215)	0.131	(0.337)	0.096	(0.294)
Public sector	0.220	(0.414)	0.187	(0.390)	0.178	(0.383)	0.091	(0.287)
Farm and Industry	0.136	(0.343)	0.073	(0.260)	0.248	(0.432)	0.195	(0.397)
Construction	0.021	(0.143)	0.027	(0.161)	0.148	(0.355)	0.204	(0.403)
Consumer goods	0.265	(0.442)	0.198	(0.399)	0.300	(0.458)	0.329	(0.470)
Finance	0.040	(0.197)	0.053	(0.223)	0.040	(0.195)	0.073	(0.260)
Administration, healthcare	0.375	(0.484)	0.498	(0.500)	0.168	(0.374)	0.102	(0.303)
Tourism, hotels restaurants	0.061	(0.240)	0.105	(0.307)	0.052	(0.222)	0.063	(0.243)
Cultural sector	0.102	(0.302)	0.047	(0.211)	0.045	(0.207)	0.033	(0.179)
Observations	902		667		948		1,140	

Sd.: standard deviation

Table A.2: Propensity score estimation (probit) for being the beneficiary of a 35-hour workweek, by sex

		WOMEN		MEN		
		Mean		Mean		
		Coef.	Se	Coef.	Se	
In a relationship		-0.077	0.099	0.050	0.100	
Age		-0.010 **	0.005	0.002	0.004	
Number of Children	0	-0.096	0.111	-0.135	0.092	
	1	-0.030	0.122	-0.193 *	0.099	
	2 or +	Ref		Ref		
	No qualifications	-0.016	0.191	-0.011	0.166	
	Vocational	0.342 **	0.159	-0.045	0.145	
	Secondary	0.495 ***	0.172	0.046	0.178	
Education	Tertiary short	0.225	0.164	0.261	0.160	
	Tertiary long	Ref		Ref		
	Executive	0.139	0.240	-0.706 ***	0.174	
	Intermediate	0.631 ***	0.177	-0.109	0.103	
	Clerical worker	0.130	0.145	0.108	0.116	
	Manual worker	Ref		Ref		
Tenure		0.009 *	0.005	0.021 ***	0.005	
Income	Q1	1.473 ***	0.251	1.706 ***	0.176	
	Q2	1.263 ***	0.250	1.172 ***	0.163	
	Q3	1.019 ***	0.251	0.808 ***	0.162	
	Q4	0.869 ***	0.237	0.621 ***	0.158	
	Q5	Ref		Ref		
Atypical schedule		0.061	0.088	-0.133	0.082	
Flexible time schedule		-0.271 **	0.120	-0.421 ***	0.110	
Firm size	missing	-0.621 **	0.262	-0.474 *	0.253	
	<10	-0.540 ***	0.180	-0.735 ***	0.138	
	10-49	-0.068	0.180	-0.466 ***	0.130	
	50-199	0.018	0.184	-0.041	0.135	
	200-499	0.373 *	0.220	-0.132	0.155	
	>500	Ref		Ref		
Public sector		0.252 **	0.117	0.189	0.149	
Branch	Farming, industry	0.104	0.213	-0.456 **	0.193	
	Construction	-0.218	0.288	-0.626 ***	0.199	
	Consumer goods	-0.024	0.183	-0.590 ***	0.186	
	Financial	-0.179	0.250	-0.276	0.234	
	Healthcare	-0.581 ***	0.176	-0.318	0.215	
	Tourism	-0.589 ***	0.214	-0.479 **	0.225	
	Cultural	Ref		Ref		
Constant		-0.584	0.393	-0.318	0.322	
R2		0.154		0.198		
N individuals		1,102		1,546		

Data: INSEE, Time Use Survey, 2009-2010
*p < .10; **p < .05; ***p < .01.

Table A.3: Effect of 35-hour workweek, by sex and day type (weekday or weekend, mins. per day) with a kernel estimator, excluding those with annualised schedules

		Women			Men		
		Treated	Controls	ATT	Treated	Controls	ATT
<i>Weekday</i>	Paid work	331	376	-45 **	373	430	-57 ***
	Leisure	210	197	13	259	227	32 ***
	Personal maintenance	623	612	11	602	593	9
	Housework	140	138	2	95	79	16 *
	Cooking & washing up	51	51	0	20	22	-2
	Cleaning & laundry	49	50	-1	12	12	0
	Shopping	20	21	-1	14	9	5 **
	Repairs & gardening	9	7	2	35	22	13 **
	Bookkeeping	5	5	0	6	3	3 *
	Other	7	4	3 *	7	10	-3
	Childcare	42	31	11 **	19	18	1
	Routine childcare	38	27	11 **	16	15	1
	Flexible childcare	4	4	0	3	3	0
	Multitasking	255	294	-39 *	227	244	-17
	<i>N</i>		478	342		495	613
<i>Weekend</i>	Paid work	85	99	-14	96	68	28 **
	Leisure	366	362	4	448	439	9
	Personal maintenance	674	673	1	663	677	-15
	Housework	197	197	0	133	148	-15
	Cooking & washing up	62	65	-3	28	27	1
	Cleaning & laundry	78	78	0	23	30	-7 *
	Shopping	32	35	-3	21	32	-11 **
	Repairs & gardening	14	9	5	46	45	1
	Bookkeeping	3	5	-2	4	3	1
	Other	8	5	3	10	9	1
	Childcare	33	26	8	19	21	-2
	Routine childcare	28	18	10 **	12	16	-4
	Flexible childcare	6	8	-2	7	6	1
	Multitasking	309	339	-30	298	289	9
	<i>N</i>		392	275		411	459

Data: INSEE, Time Use Survey, 2009-2010

*p < .10; **p < .05; ***p < .01. Standard errors are computed by bootstrap estimations with 200 iterations.

¹ The overtime cost was 25% in firms employing more than 20 workers and 10% in small firms until 2003. Overtime was set to a maximum of 48 hours a week and 130 hours a year.

² Their wage being based on annual days worked rather than weekly hours. They are entitled to overtime days off above the limit of 217 days worked.

³ We keep only individuals who completed both the face-to-face interview and at least one diary.

⁴ We excluded part-time workers ($N = 1,406$) who, in theory, were only partly affected by the reform. To define full-time, we use the variable imputed by INSEE because not everyone was asked the question on part-time work due to a problem in programming the questionnaire. Part-time work was not widespread in France (15% just before the reform in 1997), and the rate was even lower in firms affected by the reform (9%) (Oliveira and Ulrich 2002). For half of the part-time workers, the reform did not change their working hours. The restriction to full-time workers is thus not a strong limitation and ensures that our results are free of confounding effects due to possible part-time adjustments.

⁵ A study using the French labour force survey confirmed that the hours reported by workers are consistent with the changes in legal working hours (Oliveira and Ulrich 2002). To check this argument, we used external data, i.e. the 2010 Labour Force Survey which contains information on both the usual working hours and the number of weekly hours in the employment contract. 99% of those who report normally working 35 hours have 35-hour employment contract.

⁶ It controls for the different wage distributions between companies that have implemented the reform and those that have not, as well as the lower wage growth in the former companies.

⁷ To check whether the reform affects men and women differently, we estimate the propensity score on the female and male population together, then run a regression analysis with gender, treatment and an interaction term and analyse whether this interaction is significant.

⁸ The Kernel estimator relates each worker who benefits from the 35-hour reform to all the workers who do not; it does so by assigning to the latter a weight that is inversely proportional to their distance from the 35-hour beneficiaries. In addition, we computed a bandwidth for all individuals, and the observations for the controlled group outside this bandwidth had a very low weight. The Silverman formula for the bandwidth is $1.06*s*n^{(-1/5)}$, where n is the size of the sub-sample of controls and s the estimated standard deviation of the propensity score calculated for this sub-population.

⁹ The results for the nearest neighbour specification were less satisfying, as the balancing properties were not satisfied for some covariates.

¹⁰ Even if this selection involves other drawbacks and possible biases, the most stable and older workers would be selected.

¹¹ It is possible that wage-earners who benefited from this option are more likely to be in higher-level occupations and can more easily outsource domestic tasks.