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▶ **To cite this version:**

Emma Duchini, Clémentine van Effenterre. Reforming the School Schedule: an Indicator of Inequality in the Labour Market?. 2017. halshs-02537520

HAL Id: halshs-02537520
https://shs.hal.science/halshs-02537520

Submitted on 8 Apr 2020

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REFORMING THE SCHOOL SCHEDULE: AN INDICATOR OF INEQUALITY IN THE LABOUR MARKET?

IPP Policy Brief

n°26

April 2017

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www.ipp.eu



Summary

France's 2013 reform of the school schedule, which reallocated a half day of classes to Wednesday morning for students in kindergarten and primary schools, is a small revolution in the organisation of time in the French society. This policy brief demonstrates that the school schedule not only has an impact on children's learning, but also influences women's labour supply decisions. The French setting reveals the presence of two types of inequality in the labour market: inequality between women and men, and inequality between highly educated and low-educated women. Before the 2013 reform, women whose youngest child was in primary school were twice as likely as men not to work on Wednesday, and thus to adjust their work schedule to that of their children. In addition, the decision to work on Wednesday was correlated to women's level of education, as mothers with a university degree were less likely to work on Wednesday than women without a university degree, although they worked more hours on average per week. The re-organisation of the school schedule resulting from the 2013 reform induced mothers to restructure their working schedule too: while, at least in the short term, the reform did not affect the number of hours worked per week, it enabled more women to work on Wednesday, resulting in a 15% reduction in the Wednesday gap with men in less than two years.

- Children's school schedule directly influence how women organize their working schedule, which is not the case for men.
- Not all women can have a flexible working schedule: prior to 2013, mothers with a university degree were more likely not to work on Wednesday than those with at most a high-school degree (45% vs. 41%), even though they worked more hours per week (36 hours vs. 33 hours).
- The 2013 reform of the school schedule has given mothers an opportunity to re-allocate their working time: without increasing their number of hours worked per week, it has led to an increase in the percentage of women working on Wednesday, reducing the gap between women and men along this dimension by 15%.

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The reform of the school schedule implemented during the five-year term of French President François Hollande had first and foremost the pedagogical objective of concentrating the learning time in the morning, when, according to chronobiologists, students are the most attentive. The reform (Box 1), which was ambitious from a pedagogical perspective, spurred a significant debate, both within the education community and among parents and regional authorities. The shift to a week of five mornings of classes corresponds to a profound change in the organisation of time for the French society, since the Wednesday break has characterised students' school schedule for more than forty years.

While the impact of this reform on the organisation of time in the French society is undeniable, it is not certain that it should also affect mother's employment decisions. The research findings presented in this policy brief demonstrate the importance of children in the organization of mothers' working time. First, we describe how mothers working schedule was tightly linked to their children's school schedule before the reform was implemented. Next, we study the effect of the 2013 reform, including the introduction of classes on Wednesday morning, on mothers' labour supply decisions. We show that the re-organisation of the school schedule affected the decisions of women in terms of days worked per week and the distribution of time worked during the week.

No school on Wednesday: A French exception

The break in the middle of the week, a practice unique to France, dates back to the creation of France's secular republican educational system and originates from a compromise with the Catholic Church. Article 2 of the Law of 28 March 1882 on compulsory primary education (the Jules Ferry Laws) dictates that "Public primary schools will hold one day free, apart from Sunday, to allow parents to give, if they wish, their children a religious education outside from school buildings. Religious education is optional in private schools." Following the Order of 12 May 1972, the break, initially on Thursday, was moved to Wednesday to balance out the school week after the elimination of classes on Saturday afternoon. The break on Wednesday remained in place until 2013.

What have been the consequences for working women? The underemployment of women on Wednesday

The first finding of our analysis is the existence, in the pre-reform period, of a correlation between how women allocated their working hours during the week and the Wednesday break in the school schedule. This correlation does not exist for men, which suggests that their work decisions are hardly affected by this institutional constraint.

According to the figures of the French Labour Force Survey, more than 40% of mothers whose youngest child was of primary school age did not work on Wednesday prior to September 2013, or 20% more than fathers with children in the same age range. This gap suggests the persistence of gender norms according to which women, more than men, must adapt their professional activity to the needs of their children.

It is important to stress that the need for temporal flexibility resulting from the Wednesday break occurred only in France. A comparative analysis of the allocation of working hours in several European countries does indeed show that prior to 2010, women in France clearly worked fewer hours on Wednesday than other days of the week (except for Saturday and Sunday) when compared with their German, Spanish or British counterparts (Figure 1). On average they worked less than five hours on Wednesday, compared with more than six hours on other days. The gap is statistically significant, while in the other countries, the number of hours worked does not vary significantly over the week.

Box 1: The 2013 reform of the school schedule

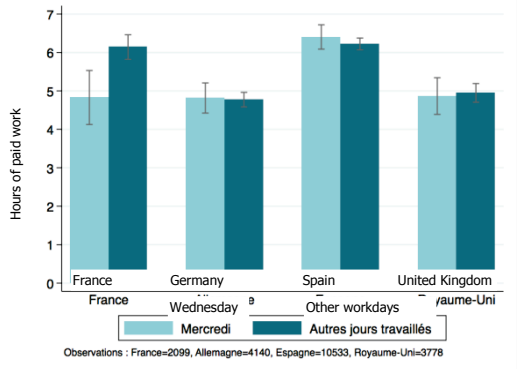
The school reform started to be implemented in around 4000 municipalities in September 2013 in accordance with the decree of 24 January 2013. The reform concerned all kindergarten and primary schools, and resulted in a shift from four days a week to four and a half days of classes (1). Each school day was shortened by approximately 45 minutes, and three hours of class were re-scheduled to Wednesday morning (2). In addition, the reform required schools to provide three optional hours of extra-curricular activities per week, at almost no cost for families.

The government allowed municipalities to decide whether to implement the reform either in 2013 or 2014. In April 2013, 20% of municipalities surveyed stated that they would implement the reform in autumn 2013, with the others delaying its implementation to the school year 2014-2015. Municipalities could also decide when to relocate the three hours of classes. The majority opted for Wednesday morning, while 3% placed them on Saturday morning.

Besides, municipalities are also in charge of funding and organising the extra-curricular activities. As highlighted in a joint survey conducted by the CNAF, the French National Family Benefit Fund, and the French Mayors' Association, it appears that municipalities adopted very different strategies in the allocation of the extra-curricular activities.

1. Domingo, Pauline, Favrat, Adélaïde. "L'organisation des nouveaux temps périscolaires par les communes: premiers éléments de bilan", *L'Essentiel*, 151 (2014), Caisse Nationale des Allocations Familiales.
2. Source: CNAF-Association des Maires de France (AMF) survey on implementation of new after school schedule.

Figure 1: Across-country comparison of time spent working by mothers with young children



Field: Employed women whose youngest child is under 12.

Source: Multinational Time Use Study, 1991-2010

NB: In France, working women whose youngest child is younger than 12 report working less than 5 hours on Wednesday, compared to more than 6 hours during the others days of the week (excluding the weekend). The gap is statistically significant.

Again, for men we do not see a significant gap in the number of hours worked on Wednesday compared with the other days of the week.

These figures have to be considered together with those measuring the type of childcare chosen by parents of children under six. A recent survey by DREES (3) has shown that before the reform, 70% of parents with a child under six stated that the child was cared for by at least one of the parents on Wednesday between 8 am and 7 pm (4).

Unequal access to temporal flexibility

For the remainder of our analysis, we focus on the comparison of two groups of women with similar characteristics (age, average qualification level, etc.), and whose labour supply is comparable: women whose youngest child attends primary school (6-11) and women whose youngest child is slightly older (12-14). In principle, the second group is not affected by the constraint of the Wednesday break, given that the youngest child, in middle school, generally has class on Wednesday morning (5).

The analysis of the Labour Force Survey data shows that employees are not equal with regard to the possibility of adopting a flexible work arrangement. Women with a university degree work on average more hours per week than those with at most a high-school degree (36 hours vs. 33 hours). Before the 2013 reform, however, a greater percentage of them did not work on Wednesday (45 % vs. 41%) (Figure 2). This gap in the probability of working on Wednesday by educational level is greatly reduced as the child grows and enters middle school. It is also worth highlighting that among women with a university degree, the decision to work on Wednesday varies by household type: 48% of women whose level of education is lower than or equal to that of their spouse (e.g., a woman with a bachelor's degree whose spouse has a master's degree or doctorate) declared that they did not work on Wednesday before 2013, while only 43% of women with a higher level of education than their partner stayed at home on Wednesday.

3. DREES Survey on types of childcare (2013).
4. Other forms of childcare include grandparents (7%); other members of the family; other people outside the family; a certified or non-certified nursery assistant; home-based child care; public school (including school transport); private school; infant day care (municipal, county, company, staff, parental, familial, mini-nursery, micro-crèche); drop-in day care centre; kindergarten; after school day care centre; study centre; private teacher; recreational home; recreation centre; a cultural, sports or religious activity; or a specialised facility.
5. We also decided to exclude from our analysis mothers of children younger than six to avoid confounding the impact the school schedule reform with that of other policy interventions that affected these mothers such as that of parental leave. In the working paper associated with this brief, we show including them in the "treatment" group does not significantly affect our results.

Temporal flexibility that may be costly for women's career

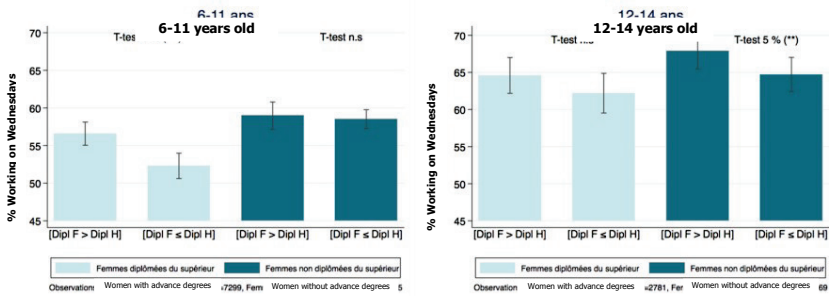
The fact that fewer highly educated women work on Wednesday than lower educated mothers may be explained in part by a larger bargaining power with their employer. However, this quest for temporal flexibility can, over the long term, prove costly for highly-educated women. In certain occupations more than others it is particularly important to be continuously present on the workplace to participate in meetings, develop and maintain relationships with clients, or meet various deadlines. In these professions, a woman who decides not to show up at her workplace one day a week may be penalised not only in terms of salary, but also in terms of career advancement, a phenomenon the American researcher Claudia Goldin has called the "cost of flexibility" (6). Inspired by her work, we have used the O*NET database of the United States Department of Labor to categorise professions by their "cost of flexibility", which depends on the type of activity performed and work environment (7). The analysis confirms that the gender wage gap in France is larger in those occupations that command a higher cost of flexibility.

Box 2: the difference-in-difference strategy

To measure the impact of the 2013 reform on female labour supply, we have adopted an approach commonly used in evaluating public policies: the "difference-in-difference" strategy. The method consists in comparing two similar groups of women to isolate the causal effect of the reform: the "treatment" group consists of women whose youngest child is of primary school age and who are, in this regard, the most likely to have changed their labour supply decisions as a result of the reform; the "control" group consists of mothers whose youngest child is of middle school age (between 12 and 14) and who are not directly concerned by the reform. The "difference-in-difference" strategy isolates the causal effect of the reform assuming that, absent the reform, the evolution in labour supply decisions of the two groups would have been similar. This hypothesis can be tested indirectly by comparing the dynamics of labour supply measures of the two groups prior to the reform: the analysis confirms that these trends were "parallel" (see Figure 3 [next page] and working paper). As a result, it is possible to interpret the deviations in labour supply decisions between the "treatment" group and the "control" group observed after the reform as measuring the causal impact of the reform on female labour supply.

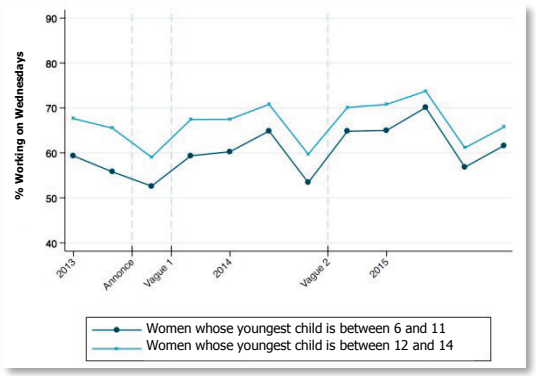
6. Goldin, Claudia. "A grand gender convergence: Its last chapter." *The American Economic Review*, 104:4 (2014), pp. 1091-1119
7. For a detailed description of the method used to measure the cost of flexibility, we refer to our working paper.

Figure 2: The decision to stay at home on Wednesday correlates with the age of the youngest child, level of education, and household composition



Sample: Employed mothers whose youngest child is (a) between 6 and 11; (b) between 12 and 14. Sample period: January to September 2013.
Source: Labour Force Survey (INSEE).
NB: Prior to September 2013, women with at most a high-school degree were on average significantly more likely to work on Wednesday than women with a university degree, irrespectively of the level of education of their spouse. Among women with a university degree whose youngest child is of primary school age, 57% of those with a level of education higher than their spouse's (Dipl F> Dipl H) declared that they worked on Wednesday, compared with 52% for women whose level of education was lower or equal than thier spouse's (Dipl F ≤ Dipl H). This gap is significant at 1%. This difference is no longer significant for mothers whose youngest child is in middle school (righ-hand graph).

Figure 3: Evolution in the proportion of mothers declaring to work on Wednesday in the "treatment" and "control" groups, defined according to the age of the youngest child



Sample: Employed mothers whose youngest child is between 6 and 14 years old. Sample period: January- September 2013.

Source: Labour Force Survey (INSEE).

NB: This figure compares the evolution in the share of women who declare to work on Wednesday among the "treatment" group (women whose youngest child is between 6 and 11) and the "control" group (women whose youngest child is between 12 and 14). Wave 1 corresponds to the initial phase of the implementation of the reform in September 2013 that concerned approximately 20% of municipalities, Wave 2 to the wider application of the reform to all municipalities beginning in September 2014.

The reform has enabled women to better distribute their work time over the week

Two components of the reform may have influenced mothers' labour supply. On the one hand, the reorganisation of the school schedule may allow certain mothers to readjust their own work schedule. On the other hand, three additional hours of extra-curricular activities may enable some women to increase the amount of time worked in a week.

Our study shows that the reform did affected mothers' labour supply decisions. In details, we see that treated mother adopt a more regular working schedule over the week, in comparison to the control group. In particular, the probability of working on Wednesday increased over only two years by 3 percentage points for mothers directly affected by the reform compared with those not directly concerned. This corresponds to a reduction of nearly a third in the pre-reform gap between the treatment and control group along this margin, or 15% of the gender Wednesday gap.

At the same time, our results suggest that, at least in the short-run, mothers affected by the reform did not take advantage of the extra-curricular activities to increase their weekly hours of work. We see neither an increase in hours worked nor a significant decrease in the frequency of part time work for treated mothers with respect to the control group. We come back on this point in the conclusion to discuss the most plausible explanations for these findings.

Which women had the largest response to the reform?

A subgroup analysis allows us to identify whether some women had a larger response to the reform. Certain factors, already highlighted in the descriptive analysis, are especially likely to influence women's labour supply in general, and the reaction to this reform in particular. These comprise, for instance, socio-demographics characteristics such as women's level of education, but also household composition and women's occupation (type of work contract, sector and profession). Comparing mothers' response to the reform along these different dimensions allows us to reach two conclusions. First, women who were less likely to work on Wednesday prior to the reform are those who react more strongly to the regularization of the school schedule. For example, highly educated mothers, thanks also to their higher bargaining power vis-à-vis their employer, were much more likely than women with at most a high-school degree to adopt a regular schedule after the reform. Secondly, our results seem to indicate that the "cost of flexibility" associated with certain professions has played an important role in shaping the response to the reform. We clearly observe that women who have an executive position or a professional occupation are those who have most increased their presence at work on Wednesday.

In conclusion…

This study provides two key messages. First, the French context shows that that women do not have equal access to flexible work arrangements. Prior to the reform, adjusting the work schedule around children's needs was simply not an option for many women. Secondly, this setting also shows that institutional constraints bind for women but not for men. The 2013 reform allowed mothers to reduce substantially the gender gap in the presence at work on Wednesday. This aspect makes it even more important to keep on tracking the long-term implications of this reform, especially for what concerns women's career prospects and the gender wage gap. Besides, our results underline the importance of an integrated approach to public policies.

To conclude, it is important to stress again that, according to our initial results, mothers did not take advantage of the introduction of extra-curricular activities to increase their working hours. We advance a few potential explanations for this: on the one hand, three additional hours of childcare might not be enough to trigger an increase in hours worked; on the other hand, parents' perception regarding the quality of the extra-curricular activities might influence their decision to let their children participate in them. This hypothesis suggests that an increased effort to provide high-quality childcare may be crucial to help women work more and more regularly. The announcement made by the Ministry of Education regarding that government funding for the extra-curricular activities will be maintained also for 2016 appears to go in this direction, but it remains essential to raise the quality of childcare offered to allow mothers to best reconcile work and family duties.

Study reference: This policy brief is based on the working paper: "Do women want to work more or more regularly? Evidence from a natural experiment", Emma Duchini, Clémentine Van Effenterre.

Authors: Emma Duchini is a postdoctoral researcher at the University of Warwick. Clémentine Van Effenterre is a doctoral student at PSE.

Support: this work was supported by the OSE Opening Economics research fund, The Gender Institute, Alliance programme, and public funds managed by the French National Research Agency (ANR) on behalf of the Investments in the Future Programme ANR-10-EQPX-17 (Centre d'Accès Sécurisé aux Données - CASD). We would also like to thank the French Ministry of Education and Research for giving us access to the Enrysco database, and the CNAF, the French National Family Benefit Fund and the French Mayors' Association for granting us access to the survey on the organisation of extra-curricular activities.