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# Trends in working time in France, 1985-2010: a decomposition approach

*Laurent Lesnard • Jean-Yves Boulin*

Since the beginning of the Industrial Revolution and the emergence of wage labour, the daily and weekly number of work hours has been the subject of tension between employers and workers (Thompson, 1967). In France, as in most European countries, working time has been regulated in connection with a succession of linked issues: the improvement of working conditions; demographic and public health objectives (in particular for military purposes); the quest for free time and for family, social and educational life; sharing work; productive flexibility in extending the duration of equipment use and the opening times of services (Fridenson & Reynaud, 2004).

During the 2000s, faced with the increasing intensification of working time, its densification and its acceleration that also affected all the other spheres of social life, the question of the balance between work life and personal life became a key element of reflections and actions on the organisation and duration of working time.

However, this issue has become more significant in Nordic and Anglo-Saxon countries (Eurofound, 2006, 2012) and at the European level (see, for example, the European Pillar of Social Rights adopted in 2017 in Gothenburg and renewed at the Porto summit in 2021) than in France, where this issue has become key only since the COVID-19 pandemic and the correlative development of telework.

More recently, the issue of working time, in particular its reduction but also its organisation, has also been called upon to deal with the climate crisis (De Spiegelaere & Piasna, 2021; Devetter & Rousseau, 2011; Knight, Rosa & Schor, 2013, but also the 28-hour working week that was debated in France by the Citizens' Climate Convention in 2020-2021 and also the renewed interest in the four-day week in several countries, see Autonomy, 2019, 2021). Telework,

the development of which has been greatly stimulated by the pandemic, is also cited as one of the ways of fighting global warming.

Compared to most other European countries, and irrespective of the issues at stake, one of the peculiarities of France with regard to regulating the duration and organisation of working time is the decisive role played by legislation. This means that the role of politics is central to the way working time is regulated. It follows that what has been done by one government can be undone by another whose political colour is different.

The hypothesis that will structure our discussion throughout this chapter is the argument that the reduction in working time in a country such as France, where this issue is very marked ideologically and regulated by law, struggles to materialise in the actual working hours of employees. Thus, the law implementing the 40-hour working week in 1936 did not come into being in real working time until the end of the 1970s, more than 40 years later. Of course, the reconstruction and the shortage of labour after the Second World War explain the massive recourse to overtime, but from 1938, just after the fall of the Popular Front, decrees came to call into question this social progress.

Using data from time use surveys conducted in 1985, 1998, and 2009 – a period during which the legal working time was reduced twice, in 1981 from 40 to 39 hours a week, then in 1997 and 2000 from 39 to 35 hours a week – we will show that these reductions in the legal duration of working time did not really materialise in the actual duration practised by employees. This result is due to structural changes in the working population. But it is also due to legislative acts that emptied the various laws aimed at reducing working time of their substance.

## **The regulation of working time**

From the 1814 law banning Sunday work to the 2022 law allowing workers to monetise their compensatory days off work, the number of legal texts dealing with working time in France is substantial<sup>1</sup>. If we confine ourselves to the contemporary period from the 1980s until the 2020s, there are no fewer than 20 pieces of legislation relating to working time.

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1 Established by the Aubry laws (1997 and 2000) – In France, laws often take the name of their author and Martine Aubry was in charge of implementing the 35-hour workweek and the laws she passed are often referred to as the "Aubry laws" – these are rest days that are granted to employees whose agreed duration of working time exceeds the legal duration (35 h a week). Therefore, an employee whose actual weekly working time, defined by collective company agreement, is 39 h a week benefits from 20 days of rest in addition to their annual leave.

## **Reduction in working time according to homogeneous standards**

From 1841, the year of the first social law that regulated the duration of children's work hours, until 1968, working time was regulated by collective and homogeneous standards, although there were a few exceptions regarding certain specific activities (process industries, safety and health sectors)<sup>2</sup>.

Defined by law during the first half of the twentieth century, these collective standards generalised a daily duration of eight hours, a 40-hour working week and paid holidays gradually increased to four weeks annually. To this was added a minimum age for entry into the labour market and a maximum age for exit. This resulted in the sedimentation of a standard model based on fairly widely shared collective working hours (08:00-09:00 to 17:00-18:00) and a ternary cycle in terms of life course (education-work-retirement). This model, resulting from a Fordist organisation of work, was based on a separation between spaces and temporalities of work, on the one hand, and spaces and temporalities of family and social life outside work, on the other, in addition to a gendered division of tasks.

Although over the entire period from the middle of the nineteenth century to the present days working hours have experienced a reduction trend due to the legislation, this has not always been linear. Thus, the 40-hour working week instituted in 1936 did not really come into being until the end of the 1970s. Indeed, the approach of the Second World War and then the reconstruction of the country afterwards generated a large volume of overtime, which resulted in effective weekly work durations well above 40 hours. After 1968, the effective weekly duration of work gradually came closer to the legal threshold of 40 hours due to the reduction in overtime (Marchand & Thélot, 1997).

## **Tensions between work-sharing and productive flexibility**

The period that began with the 1980s was marked by a double movement of a reduction in working hours and the development of working time flexibility. Indeed, in less than two decades, two laws have triggered a reduction in legal working hours, both of which contained provisions aimed at making working time more flexible. Moreover, these laws were followed by legal provisions

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2 The law of 22 March 1841 "relating to the work of children employed in factories or workshops" prohibited work for children under the age of eight, limited working hours to eight hours for those aged between eight and twelve, to twelve hours for those aged between twelve and sixteen, and prohibited night work for children under the age of thirteen. Work on Sundays and public holidays was prohibited for those under the age of sixteen.

which aimed to make schedules more flexible and, in the case of the “Aubry laws”, to empty them of their very substance, that is to say, to actually reduce working time.

Indeed, the 1982 decrees reducing the weekly legal working time from 40 to 39 hours also initiated a movement towards deregulating collective standards, a movement that is still going on today. Between 1982 and 2022, no fewer than 20 laws dealt, more or less, with issues relating to working time, most of them aiming at making working time more flexible for employers.

These past four decades working time policies have in fact been marked by tensions between employer-led flexibility and the need to reduce unemployment. Sometimes the emphasis was on reducing working time in order to reduce unemployment (e.g., a shift in the legal weekly working time from 40 hours to 39 hours; the so called “Aubry laws” in 1997 and 2000 that implemented the 35-hour working week).

At other times, it was the search for greater flexibility in working time (increased opportunities for weekend work in the manufacturing sector – the so-called Friday, Saturday, Sunday teams – in 1982; the “Séguin law” in 1987 that allowed for more flexible working-time arrangements for economic reasons; the “Quinquennium law” in 1993 that extended the opportunities for counting work hours annually instead of weekly, increased tax incentives to develop part-time work, and implemented additional exemptions from Sunday rest).<sup>3</sup>

In some cases, the laws aimed at both goals simultaneously. This was the case with the 30 % reduction on employers’ social insurance contributions for hiring part-time employees in 1992, which was increased to 50 % in 1993. The aim was both to provide more flexible forms of employment to employers in the services industry and to offer more job opportunities for women, whose share of the working population had grown considerably since the 1970s but whose unemployment rate had also risen sharply (Afsa Essafi, 2006).

The same observation can be made for the “Aubry laws” (1997 and 2000). Through a strong collective reduction in working time (from 39 to 35 hours per week) the legislation clearly aimed at creating jobs; but it also introduced more opportunities for making working hours more flexible by generalising its annualisation and also by introducing a flat-rate pay agreement covering days worked (*forfait jours* in French) for some qualified managers. This last measure makes it difficult to control the working time of managers who, in fact, in 2019 worked on average more than 43 hours per week (Insee, 2021, p. 132). The increase in the number of women in the workforce and the growth in the number of managers (whose share of total employment has more than

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3 Philippe Séguin passed this law.

doubled in 40 years) are due to a movement towards the growth of the services sector.

### **Growth of the services sector**

Even though the services sector has grown continuously since the end of the nineteenth century, it has experienced a strong increase since 1945. As a result, the number of jobs in the services sector has more than doubled in 50 years (Marchand & Thélot, 1997): services activities represented about 76 % of total employment in France in 2018 (Insee, 2022). This growth involved public services, where employment has increased steadily since the end of the Second World War, with peaks in job creation in the 1980s (with TUC – *Travaux d'utilité collective* – a kind of community work contract) and the 1990s (with the *Contrats de Solidarité* – Solidarity Contracts) together with the devolution movement, which has stimulated job creation at the local level (Marchand & Thélot, 1997). From the 1960s onwards, the strong development of jobs in market services, provided the bulk of job creation until today.

This development of services was also associated with an increase in educational attainment and in highly qualified jobs. Indeed, the share of professionals and managers increased by about seventeen points since the 1960s: executives now represent a fifth (21.5 %) of the employed population.

This period was also marked by a strong increase in female employment: whereas 50 % of women aged 25 to 59 were in employment at the beginning of the 1970s, this was the case for 75 % of them in 2006 (Afsa Essafi, 2006). This double movement of growth in qualifications and the feminisation of employment is linked to the development of services – which has accompanied the rise of information and communication technologies.

The feminisation of employment has also been favoured by incentives for part-time work (cuts in employers' social contributions in 1992 and 1993), the share of which has increased by more than ten points since 1982, to reach 18 % at the end of the 1990s.

This increase in part-time employment is clearly linked to the increase in personal services, the development of which was stimulated by the introduction of a tax credit for households employing someone at home, by the ageing of the population, and by the commodification of public services. Part-time employment, which is in fact an individual decrease of work hours collectively provided for by law, is linked to inequalities in the labour market since, in 2021, (1) it involved 28 % of employed women (8.3 % of men) and (2) this form of employment was made up of 43 % low-skilled employees.

Another consequence of the growth of services is the diversification of working hours, which has led to an increase in atypical working hours in recent decades. Indeed, all front office services (personal care, retail, delivery people, etc.) presuppose the performance of the service *uno actu*, that is to say, they presuppose the co-presence of service producers and consumers, which could shake up the daily time organization of employees.

### **Measures to thwart the reduction in working time since 2002**

The main argument used to circumvent the working-time reduction initiated by the “Aubry laws” was to increase wages through overtime. Indeed, the overtime quota jumped from 130 hours a year in 2002 to 220 in 2004. This gave employees the opportunity to carry on working 39 hours per week. The social contribution and tax exemption of overtime (TEPA law in 2007), or even the monetisation of RTT days (working-time reduction days) or of time savings accounts (2003, 2005, 2008) went in the same direction (Boulin & Cette, 2008). All these policies have been carried out without any real coherence, often referring to an ideological underpinning (“work more to earn more”) and without continuity.<sup>4</sup>

The following government first reversed the tax exemption for overtime in 2012 then introduced an opportunity to modulate the remuneration of these overtime hours, which, since the 2016 “Labour” law (*Loi Travail*), may be subject to a lower rate of remuneration (up to a minimum of 10 % instead of 25 %). On the one hand, the first measure aimed at promoting employment by discouraging the use of overtime. On the other hand, the second measure aimed, on the contrary, to facilitate the use of overtime in order to increase purchasing power to the detriment of job creation.

The successive deregulations of working time norms have led to an increase in atypical working hours, that is, to working hours outside the standard 08:00-09:00 to 17:00-18:00 over five days or exceeding it. The result was an increase in night work (1 million more were involved in 2012 compared to 1991) and also in Sunday work (Boulin & Lesnard, 2016).

In both cases, women have been most affected by the increase: they represented 30 % of night workers in 2012 compared to 20 % twenty years earlier, while their share of the population affected by Sunday work increased from 34 % to 44 % between 1986 and 2010. The destabilisation of the working-time norm has been confirmed by Sautory and Zilloniz (2015), who, using the

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<sup>4</sup> Slogan used by Nicolas Sarkozy during the 2007 French presidential campaign (see [https://fr.wikipedia.org/wiki/Travailler\\_plus\\_pour\\_gagner\\_plus](https://fr.wikipedia.org/wiki/Travailler_plus_pour_gagner_plus)).

2010 French time use survey, identified eight types of workday and nine types of working week.

Another striking habit of successive French governments is to not really care about the effectiveness of the laws they pass. Most of the time, these laws come into effect without a preparatory phase (experiments, for instance) and without *ex post* evaluation. Again, this underlines the ideological nature of laws on working time, which goes as far as disregarding their real practical consequences for employees.

This leads us to our main research question: How effective are the two main laws that are likely to change working time in France (i.e., the incentive for part-time jobs and the implementation of the 35-hour working week)? To answer to this question, we apply decomposition methods on three time use surveys to separate structural from policy or behavioural changes.

## **Data, measurements, and methods**

### **Data**

We used the last three time use surveys fielded in France (the previous surveys focused only on urban areas or, on the contrary, on rural areas):

- 1985-1986 (n = 29,723);
- 1998-1999 (n = 20,370);
- 2009-2010 (n = 18,521).

These three surveys were organised by the French National Statistical Institute (*Institut national de la statistique et des études économiques* – Insee). The data collection was the same for the three surveys (Insee, 1988, 2017 Martin & Morin 1999): paper diaries were left for randomly selected dwellings and respondents and were retrieved later by interviewers. Paper diaries were not precoded and the respondents were asked to describe their activities during the day randomly selected by interviewers in their own words. The diaries were then coded, manually for the 1985 survey and semi-automatically for the other two (an algorithm was used to code diaries and when it failed to do so they were manually coded). Regarding the timing, the first two surveys should enable revealing what happened before and after the tax incentives were introduced for part-time jobs. However, the 2010 survey is a bit distant from the two 35-hour working week laws, so we will only be able to see what remained of these laws after ten years.

## Measurement

Unfortunately, the activity lexicons used to code daily activities were not exactly the same for the three surveys. However, as we are interested in activities related to paid work, the three surveys were in the end quite comparable. Paid work was defined as: “normal paid work outside of home”, “normal professional (i.e., paid) work at home”, “travelling during work (excluding commuting time)”, “related work of farmers”, and “non-work in the workplace, related to work: getting ready, changing clothes, waiting for work to start (including breakdowns)”.

We therefore excluded commuting time and lunch time in our definition of work. In fact, commuting time is not directly related to job requirements but it depends on many external parameters that are irrelevant here. In some instances, lunch time could be considered as real paid working time (for instance, a business lunch). However, it is impossible to distinguish such events from the more classical lunch with colleagues, which may be related to paid work to varying degrees.

We took into account the different paid work activities described above only when they were described as primary activities. Indeed, in the last three French time use surveys, the respondents could also describe secondary activities, activities that were carried out simultaneously with the primary one.<sup>5</sup> There is no consensus in the time use community about how to take into account, or not, secondary activities. In the American Time Use Surveys (2003-2021), secondary activities are not collected. This choice is not discussed but it is possibly because, according to Michael Bittman (cited by Budig and Folbre, 2004, p. 59),

official statistical offices are haunted by the idea that the number of secondaries recorded has more to do with how much effort a respondent is willing to commit to completing the time diary than the real number of simultaneous activities.

In addition, if we were to add primary and secondary activities, days would no longer be limited to 24 hours and would have differing lengths. Here, we also excluded secondary paid work activities on the ground that we were not interested in residual working time spells but only in those fully focused on paid work.

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5 For instance, watching TV - primary activity - while eating - secondary activity - or the other way around: it was left to respondents to decide which activity was more important to them.

## **Explanatory variables**

We used common variables to describe the French workers' characteristics:

- Gender (all the analyses are conducted separately by gender)
- Age (under 25, 25-34, 35-44, 45-54, 55-64, 65+)
- Partnership status (No partner, Partner labour force, Partner not labour force)
- Number of children aged sixteen or younger (No children, one child, two children, three+ children)
- Educational attainment (No diploma, Primary education, Lower secondary education general, Lower secondary education vocational, Upper secondary education vocational, Upper secondary education general, Post-secondary education, Bachelor and above)
- Social class (Managers, Scientific & cult. occupations, Teachers, Intermediate occupations, Clerks, Police, Lower-grade service sales employees, Skilled manual workers, Unskilled manual workers)
- Industry (Agriculture, Agricultural industry, Energy, Other industries, Construction, Trade, Transport, Finance, Real estate, Education and health, Business services, Services, Admin NGO)
- Class of worker (Government, Private)
- Full or part-time (Part-time, Full-time)

In the 2009 survey, the part-time variable had to be manually imputed using information from other variables (Values for 7,577 individuals had to be imputed).<sup>6</sup> The different rules used seem reasonable and, on an aggregate level, the proportion of part-time workers for both women and men in the 2009 French time use survey was very close to those found using the French labour force survey. However, the results regarding this variable in 2009 will have to be interpreted with care.

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6 The computer implementation of the questionnaire had some flaws. To be more specific, the filter of the question on part-time work (variable TPP) was not respected: the question was asked only to people with permanent contracts or to civil servants who had already declared themselves to be part-time in the main part of the questionnaire. For people with another status, it was not possible to know whether they work part-time or full-time. There is also a consistency problem between this variable and the TYPEMPLROI variable of the main questionnaire: a person who declared that they work part-time was able to declare that they work full-time in the TPP variable. Several imputation possibilities were considered: imputation by a logistical model estimated on the Labour Force Survey gave unsatisfactory results, whether at the level of external consistency or that of internal consistency. The option finally chosen was a deterministic imputation according to the responses to the other variables.

## Methods

Given the social changes discussed above, we expect workers to have different characteristics in 1985, 1998, and 2009. In order to take into account these changes, we use decomposition techniques, also known as Kitagawa-Oaxaca-Blinder decompositions (Blinder, 1973; Kitagawa, 1955; Oaxaca, 1973). Decompositions explain the difference between the mean in two groups by (see Box 1):

- a part explained by observed structural changes in the models' explanatory variables;
- a part unexplained by these structural changes and that can be attributed to other factors such as policy or behavioural changes. However, in a few instances, policy changes can directly alter, at least partially, the structure. This is the case with the tax incentives for part-time work in 1992 and 1993 that led to an increase in part-time workers.

The explained part of the decomposition is a thought experiment because it amounts to comparing a real situation to a hypothetical one. If we take the example of the difference between paid working time in 2009 and 1985, then the explained part will be the difference between the predicted paid working time in 2009 and the paid working time in 1985 predicted using the 2009 estimated coefficients. As a result, the only differences between these two terms are the structural changes between the two dates.

The non-structural part of a decomposition based on dummy variables depends on the choice of reference groups (Oaxaca & Ransom, 1999). As a result, Jones and Kelley (1984) argue that all decompositions are necessarily arbitrary. However, others suggested normalising coefficients (Gardeazabal & Ugidos, 2004; Yun, 2005). According to these authors, this normalisation procedure would amount, in fact, to switch from the dummy coding scheme to the effect coding one where the constant term represents the grand mean of working time and coefficients indicate the difference from this average working time.<sup>7</sup> However, doing so raises some important questions because most of the time, observed categorical variables are unbalanced. As a result, we used dummy variables. A detailed example of a simple decomposition is presented below. The reference category of the decomposition analyses is a woman or a man (analyses are conducted separately by gender) aged 25-34, single, without children, with an upper secondary general education level, working full-time in the private sector for a company offering services to other companies in an intermediate occupation, in 1985.

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7 The mean of working time without taking into account the fact that observed categorical variables are unbalanced.

**Box 1. Decomposition method**

Let us take a very simple decomposition to clarify how they work: we want to model the changes in women’s working time between 1998 and 1985 using only one variable describing whether they worked full- or part-time. This variable is, however, a bit tricky as tax incentives introduced at the beginning of the 1990s in France to favour part-time work are likely to directly alter the structure (proportion) of part-time workers. This variable is going to be introduced in the models as a dummy variable, the omitted value being full-time so that the constant term will represent the average mean of working time for full-time workers. This simple model, as applied to the two years, can be written as:

$$Y_{1985} = \alpha_{1985} + \beta_{1985}X_{1985} + \epsilon_{1985}$$

$$Y_{1998} = \alpha_{1998} + \beta_{1998}X_{1998} + \epsilon_{1998}$$

where Y is working time,  $\alpha$  is the constant term,  $\beta$  is the coefficient associated with part-time, X is a dummy variable for part-time, and  $\epsilon$  is the error term. In 1985, the average working time of full-time workers is  $\hat{\alpha} = 438$  minutes; see Table 1). That year, working part-time is associated with -119 minutes of work. In 1998, full-time workers worked on average more than in 1985 and if part-time workers worked less than them, the difference is smaller than in 1985: part-time workers’ average working time also increased from 1985.

**Table 1. Simple ordinary least square of working time for women in 1985 and 1998**

Characteristic	1985		1998	
	B	P	B	P
(Intercept)	438	<0.001	457	<0.001
Part-time				
Part-time	-119	<0.001	-91	<0.001
Full-time	—		—	

As we seek to explain the difference between average working time, that is to say  $\bar{Y}_{1998} - \bar{Y}_{1985}$ , it is possible to re-express this difference using a counterfactual term  $\bar{Y}_{1985}^*$ :

$$\bar{Y}_{1998} - \bar{Y}_{1985} = (\bar{Y}_{1998} - \bar{Y}_{1985}^*) + (\bar{Y}_{1985}^* - \bar{Y}_{1985})$$

Where  $\bar{Y}_{1985}^* = \hat{\alpha}_{1998} + \hat{\beta}_{1998}\bar{X}_{1985}$  is a counterfactual term for which the structure (here only part-time work) is based on 1985 but the relationship between the structure and working time is that estimated for 1998. This fictitious situation can be interpreted in two ways. When compared to the 1998 regression, this counterfactual estimate can be viewed as creating a society in 1998 (in terms of the relationship between part-time work and working time) but with workers' characteristics of 1985. When compared to the 1985 regression, it will be interpreted as a fictitious society with the structure of 1985 but with relationships between part-time and working time that are those of 1998. In the first component, only the structure changes, whereas in the second, the structure is fixed and only the relationship between the explanatory variable and working time changes.

Here  $\bar{Y}_{1985} = 416$  minutes and  $\bar{Y}_{1998} = 432$  minutes. And the counterfactual  $\bar{Y}_{1985}^* = 440$  minutes. If we were in 1998 but with the number of part-time workers of 1985, the average working time would be higher than the one observed in 1998 precisely because part-time work increased for women between 1985 and 1998; see Table 1).

The first term is the structural effect and can be rewritten as the difference between means of the explanatory variable:

$$\begin{aligned}\bar{Y}_{1998} - \bar{Y}_{1985}^* &= \hat{\alpha}_{1998} + \hat{\beta}_{1998}\bar{X}_{1985} - \hat{\alpha}_{1998} - \hat{\beta}_{1998}\bar{X}_{1985} \\ &= \hat{\beta}_{1998}(\bar{X}_{1998} - \bar{X}_{1985})\end{aligned}$$

The source of variation of the structural part comes from the difference of structure (the  $s$ ) between the two dates. Here the structural part is equal to  $-8$  minutes and, in this very basic example, it is explained by the increase in part-time work between 1985 and 1998.

The second term is the non-structural term and can be rewritten as follows:

$$\begin{aligned}\bar{Y}_{1985}^* - \bar{Y}_{1985} &= \hat{\alpha}_{1998} + \hat{\beta}_{1998}\bar{X}_{1985} - \hat{\alpha}_{1985} - \hat{\beta}_{1985}\bar{X}_{1985} \\ &= \hat{\alpha}_{1998} - \hat{\alpha}_{1985} + \bar{X}_{1985}(\hat{\beta}_{1998} - \hat{\beta}_{1985})\end{aligned}$$

It is important to remember that  $\hat{\alpha}_{1998} - \hat{\alpha}_{1985}$  refers to the difference between the average working time of full-time workers in 1998 and in 1985. In this example,  $\hat{\alpha}_{1998} - \hat{\alpha}_{1985} = 457 - 438 = 19$  minutes: the average working time of full-time workers increased by 19 minutes between 1985 and 1998. Moreover,  $\bar{X}_{1985}\hat{\beta}_{1998} = -17$  minutes and  $\bar{X}_{1985}\hat{\beta}_{1995} = -22$  minutes: for a given structure (here, a certain proportion of part-time workers), the contribution of part-time to the national average working time is smaller in 1998 than in 1985, smaller

by  $\bar{X}_{1985}(\hat{\beta}_{1998} - \hat{\beta}_{1985}) = 5$  minutes.<sup>8</sup> So, between 1998 and 1985, independently of any structural changes, the average working time of both full- and part-workers increased.

In the end, tax incentives indeed led to an increase in the number of women in part-time work and this has led to a decrease of -8 minutes of working time (structural part). However, independently of this structural change, working time increased for both part- and full-time workers, leading to a 24-minute increase (non-structural part). So, the observed difference between the average working time in 1998 and 1985,  $\bar{Y}_{1998} - \bar{Y}_{1985} = 16$  minutes, can be decomposed as a sum of a structural part, -8 minutes, and of a non-structural one, 24 minutes.

## Results: trends in work hours in France 1985-2010

### Descriptive statistics

Women's total working time in France increased between 1985 and 1998 but remained quite stable afterwards (see Table 2). This increase between 1985 and 1998 is somewhat surprising, considering the fact that part-time work was made more attractive for firms. French male workers' average working time also increased between 1985 and 1998. However, contrary to women, men's working time decreased marginally between 1998 and 2009.

**Table 2. Total working time in France 1985-2010 (in minutes)**

Gender	Year	Q1	Mean	Median	Q3
Female	1985	357.5	411.70	445	480
Female	1998	360.0	430.48	450	500
Female	2009	350.0	432.41	450	500
Male	1985	425.0	463.08	475	510
Male	1998	440.0	484.02	480	540
Male	2009	420.0	479.76	480	530

<sup>8</sup> The average of a dummy variable is the percentage of what it represents. In this example,  $\bar{X}_{1985}$  = proportion of part-time workers in 1985 = 0.18 (see Table 3).

Descriptively, on average, the trends in women's and men's working time do not seem to align with what we could have expected based on the policy changes described above. However, workers' characteristics also evolved in between. Therefore, it is not possible to state that the 35-hour laws successfully led to a reduction in working hours in France for men and not for women.

As expected, (see Table 3), workers in 1985 and 2009 differ quite significantly. In 2009, compared to 1985, workers are more likely to be older, more educated and less likely to work in the primary and secondary economic sectors. Part-time work is also increasingly pervasive among female employees. In terms of social class, both the highest (managers) and the lowest (lower-grade service or sales employees, especially) positions gained ground, but this process is largely gendered as men are more commonly found among the former and women in the latter. Finally, the private sector also gained much ground compared to the public sector, especially for men.

**Table 3. Structural changes in French employees' characteristics 1985-2010 (in %)**

<b>Variables</b>	<b>Women 1985</b>	<b>Women 1998</b>	<b>Women 2009</b>	<b>Men 1985</b>	<b>Men 1998</b>	<b>Men 2009</b>
<i>Age</i>						
Under 25	13.88	8.20	7.30	12.90	8.47	8.37
25-34	31.02	27.38	21.98	31.20	29.50	24.18
35-44	28.14	31.86	28.18	28.62	29.18	29.24
45-54	17.64	25.31	29.77	19.30	26.24	27.19
55-64	8.66	6.96	12.45	7.31	6.18	10.62
65+	0.66	0.28	0.31	0.67	0.43	0.39
<i>Partnership status</i>						
No partner	42.47	33.27	32.48	28.24	28.49	25.75
Partner labour force	54.37	59.02	56.74	57.20	49.79	56.88
Partner not labour force	3.17	7.72	10.78	14.56	21.71	17.37
<i>Number of children aged 16 or younger</i>						
No children	53.91	59.33	53.95	49.36	55.13	53.11
1 child	24.54	22.63	22.91	21.68	20.94	19.47
2 children	17.52	14.28	18.11	19.91	17.50	18.60
3+ children	4.03	3.76	5.03	9.05	6.44	8.81
<i>Educational attainment</i>						
No diploma	15.44	10.13	12.85	18.50	12.78	13.64
Primary education	18.56	9.38	4.95	14.01	7.30	2.22
<b>Variables</b>	<b>Women 1985</b>	<b>Women 1998</b>	<b>Women 2009</b>	<b>Men 1985</b>	<b>Men 1998</b>	<b>Men 2009</b>
Lower secondary ed. general	9.10	8.98	7.13	5.35	7.32	4.33

Table 3. Continued

Variables	Women 1985	Women 1998	Women 2009	Men 1985	Men 1998	Men 2009
Lower secondary ed. vocational	26.85	23.90	22.98	38.48	33.44	31.65
Upper secondary ed. vocational	3.10	6.31	9.68	2.46	6.59	11.04
Upper secondary ed. general	11.49	10.25	9.19	7.41	5.92	6.19
Post-secondary education	8.91	16.34	15.92	5.72	12.73	14.46
Bachelor and above	6.55	14.71	17.31	8.08	13.92	16.47
<i>Social class</i>						
Managers	2.69	7.01	7.70	9.34	15.20	18.34
Scientific & cult. occupations	3.75	6.19	3.81	3.04	4.84	3.04
Teachers	5.77	5.01	4.09	2.16	1.53	1.52
Intermediate occupations	16.55	19.13	20.25	22.62	23.93	26.47
Clerks	38.99	34.60	28.60	8.27	7.27	6.53
Police	0.29	0.36	0.67	2.95	2.60	3.55
Lower grade service sales employees	16.37	17.43	23.48	3.07	3.02	4.35
Skilled manual workers	6.91	4.14	4.23	36.28	29.16	27.08
Unskilled manual workers	8.69	6.13	7.17	12.26	12.45	9.13
<i>Industry</i>						
Agriculture	4.28	1.79	0.79	3.07	3.10	0.72
Agriculture industry	3.34	2.60	2.69	3.71	3.50	2.41
Energy	1.13	0.87	0.59	2.26	2.49	4.52
Other industry	16.17	10.42	6.66	28.46	25.47	21.41
Construction	1.59	1.79	1.45	10.79	9.91	9.30
Trade	15.69	14.25	12.45	11.59	11.21	12.28
Transport	1.77	1.37	3.44	6.58	5.91	10.12
Finance	3.65	4.32	5.04	2.38	3.80	3.75
Real estate	1.04	1.05	0.97	0.62	0.75	1.16
Education, health	13.10	28.93	35.08	3.41	9.45	7.49
Business services	6.65	6.01	5.35	6.81	8.41	5.99
Services	7.04	13.77	7.11	2.99	6.36	6.75
Admin NGO	24.55	12.83	18.39	17.35	9.64	14.10
<i>Class of worker</i>						
Government	37.18	35.27	30.41	30.76	24.11	18.55
Private	62.82	64.73	69.59	69.24	75.89	81.45
<i>Full-time or part-time</i>						
Part-time	18.30	27.44	26.76	2.75	4.09	8.14
Full-time	81.70	72.56	73.24	97.25	95.91	91.86

**Decomposition analyses of changes in working time, 1985-2009**

The decomposition of changes in working time (see Table 4) reveals that, overall, these changes were mostly due to non-structural factors and not to changes in French employees’ characteristics.<sup>9</sup>

**Table 4. Decomposition of *working time* changes by gender (in minutes)**

	Women 1998-1985	Women 2009-1998	Women 2009-1985	Men 1998-1985	Men 2009-1998	Men 2009-1985
Observed change	15.71	1.63	17.34	23.30	-3.48	19.82
Structural part	-6.99	2.07	0.10	5.63	4.31	5.41
Non-structural part	22.70	-0.45	17.24	17.67	-7.78	14.40

Between 1998 and 1985, women’s average working time increased by about sixteen minutes despite the fact that structural factors would have led to a decrease of about seven minutes. Indeed, the rise in part-time employment between the two dates is clearly the largest driving structural factor (see Figure 1). However, this structural effect is very likely to be partially linked to the tax incentives for part-time work introduced in 1992 and 1993.

The working time of the reference situation increased by more than one hour (see Figure 2). The contribution of part-time female workers to the national average working time also increased, in other words, compared to 1985, there were more women working part-time (structural effect) and their working time was also greater (non-structural effect).<sup>10</sup> Working time also increased for women under the age of 25.

All the other characteristics are associated either with no change or a decrease in working time. The most negative changes in the contribution to the national average working time are found for clerks, lower grade service and sales employees and for workers with a low level of education.

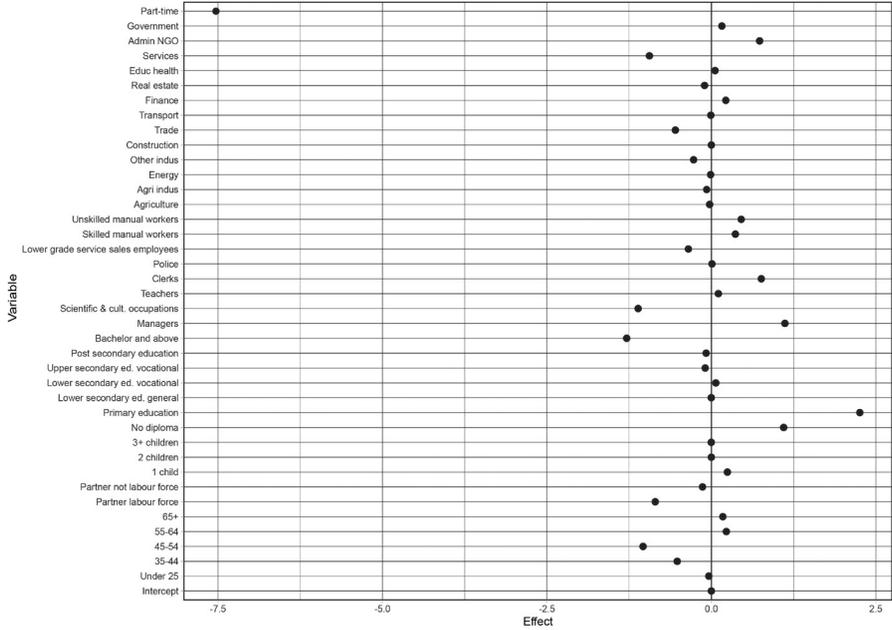
Women’s working time did not change much between 1998 and 2009. Indeed, the slight decrease in working time associated with the non-structural part – that could be interpreted as a potential effect of the 35-hour working week – is overridden by the slight increase in working time explained by structural factors. The different laws and decrees passed since the “Aubry laws”

<sup>9</sup> See Table A1 in appendix for the underlying linear models

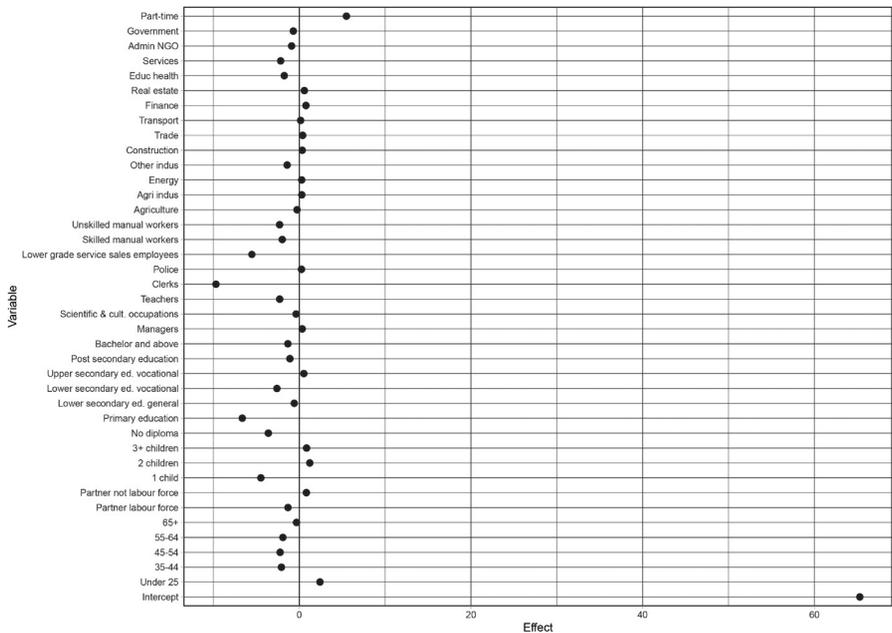
<sup>10</sup> This result was already found in the examples we used in the decomposition methods box.

have therefore been successful in neutralising the 35-hour working week for French women.

**Figure 1. Structural part of the decomposition of *working time* changes for women between 1998 and 1985 (in minutes)**



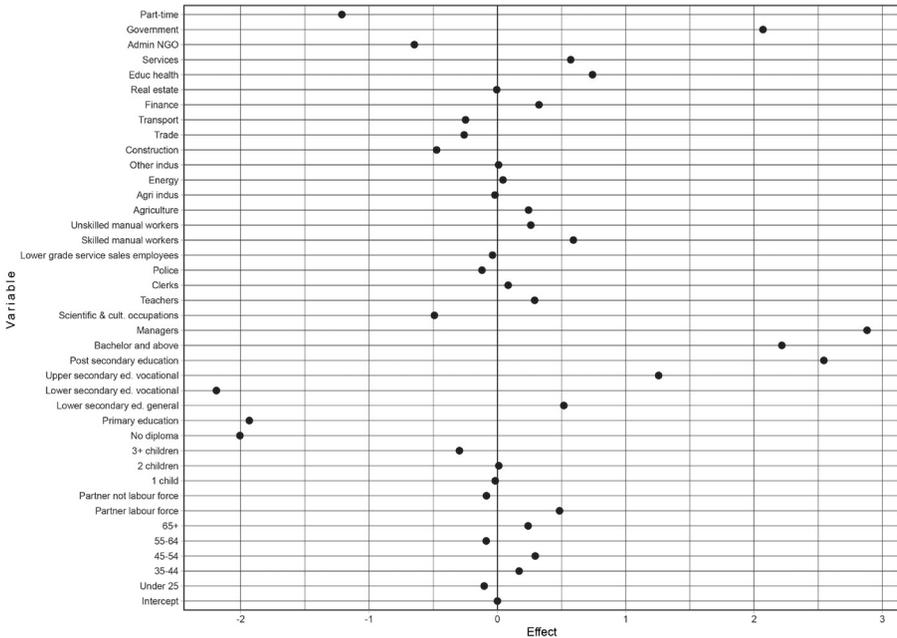
**Figure 2. Non-structural part of the decomposition of *working time* changes for women between 1998 and 1985 (in minutes)**



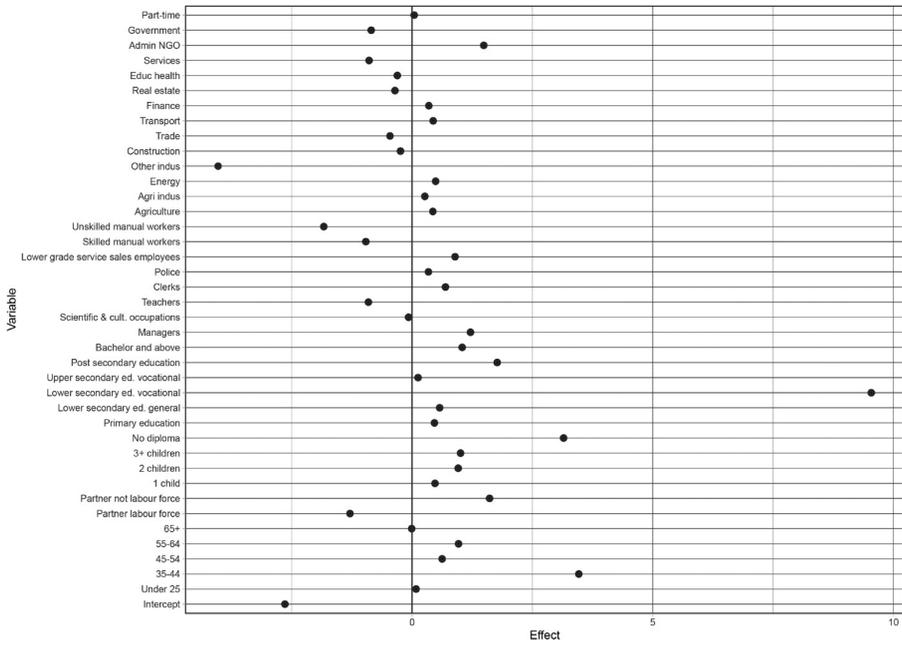
As for men, between 1998 and 1985 the increase in working time explained by structural factors can be attributed to a certain extent to the increase in the number of managers, to educational attainment, and to the decrease of the number of civil servants (see Figure 3). Part-time work also had a negative structural effect on men’s working time; however, it is not as high as for women and is overridden by the aforementioned effects. It is quite logical because, if part-time also increased for men, the proportion of men in part-time jobs is clearly lower than that of women (see Table 3).

Contrary to women, the non-structural part of the increase in men’s working time can be more clearly identified (see Figure 4): compared to workers with an upper secondary general education, the contribution to the national average working time of those with lower secondary vocational education or no diploma increased in 1998. The contribution to the national working time average also increased, to a lesser extent, for workers aged 35-44 and also for those with no diploma.

**Figure 3. Structural part of the decomposition of *working time* changes for men between 1998 and 1985 (in minutes)**



**Figure 4. Non-structural part of the decomposition of *working time* changes for men between 1998 and 1985 (in minutes)**



Men’s working time decomposition between 2009 and 1998 seems interesting at first sight. Indeed, overall working time did not change appreciably but the decomposition tells a different story as structural factors would have led to a small increase in working time; but this increase has been more than compensated for by a decrease in working time due to non-structural factors, possibly because of the 35-hour working week laws.

Among the structural factors that would have led to an increase in working time we find, again, the increase in the number of managers, of scientific or cultural occupations and the decrease in low-educated workers (see Figure 5).

The details of the non-structural part seem to tell the story of what happened to the 35-hour working week reform (see Figure 6). Indeed, the constant term is positive, so for intermediate occupations with an average level of education, working full-time in the private sector, etc., working time increased by almost one hour between 1998 and 2009. However, compared to this reference category, most other characteristics are associated with a negative contribution to the national average working time. For instance, if teachers’ contribution did not change, managers or scientific and cultural occupations’ contributions to the national average working time decreased marginally between 1998 and

2009. However, this is not the case for skilled and unskilled manual workers, whose contribution increased.

It seems that the 35-hour working week was also more effective for workers with a low educational attainment (especially those who had a lower secondary vocational diploma). Age is also interesting as there is a clear age gradient between 35 and 65 and above: the younger the worker, the more negative the contribution to the national working time average. However, for the youngest workers it is the opposite: their contribution is higher.

**Figure 5. Structural part of the decomposition of *working time* changes for men between 2009 and 1998 (in minutes)**

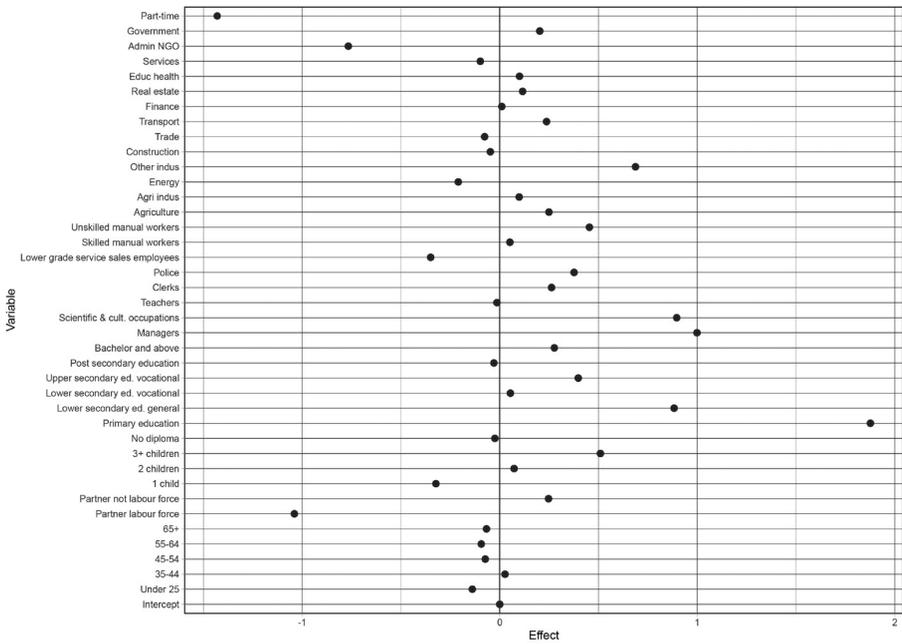
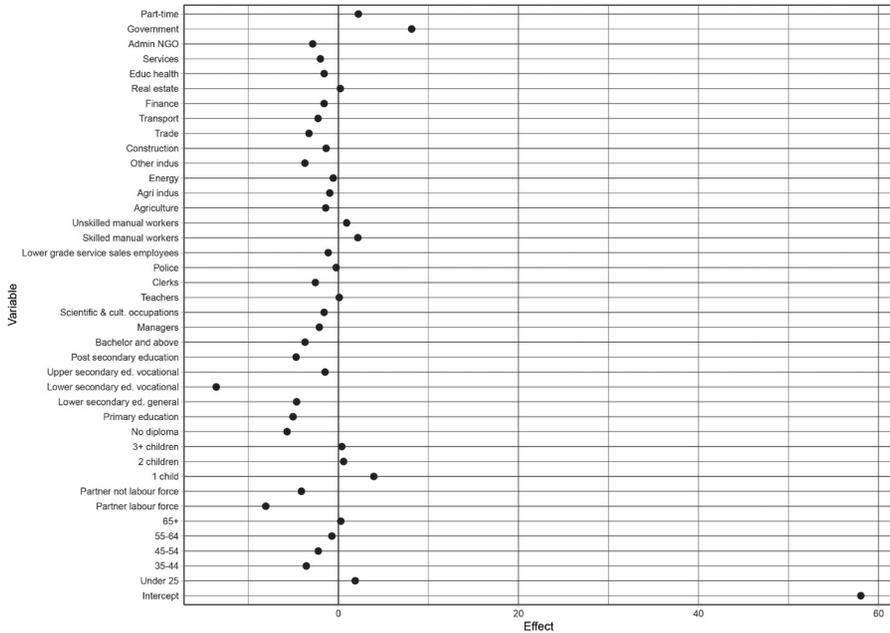


Figure 6. Non-structural part of the decomposition of *working time* changes for men between 2009 and 1998 (in minutes)



## Conclusion

Using the data from French time use surveys, we have highlighted the fact that the average daily working time of both working men and working women has changed very little between 1985 and 2009. This despite two laws that reduced the weekly working time by about 10 % during the period. The decomposition analysis of changes shows that the most effective policy regarding working time is the tax exemptions for part-time work introduced in 1992 and 1993. They certainly played a key part in increasing the number of part-time jobs, especially for women. The decomposition analyses also shows that the 35-hour working week laws had no impact on women's working time and a very small impact on men's.

This approach also highlights the combination of structural changes such as the increase in the share of executives, on the one hand, and the impact of legislative changes such as the introduction of the day package to autonomous executives, on the other hand. Gradually, this day package was extended to other categories of executive and even to other categories of employee. Owing to the fact that it makes it difficult to control working time, this daily package

has contributed to the increase in working time of these categories. As a result, executives nowadays work an average of more than 43 hours a week, eight hours more than the legal working time duration.

One of the main lessons that can be drawn from these observations is that legislative action on working time is very fragile, particularly in a country where the political positions relating to working time are very ideologically marked. In the case of working-time legislation in France, the working-time reduction voted by Parliament in 1997 and 2000 was circumvented by a series of decrees and laws.

It was not the purpose of this chapter to compare the strength of a reduction in working time obtained by law, on the one hand, and by collective bargaining, on the other. But we can hypothesise that a reduction in working time obtained by agreement between the social partners is more effective than when it is imposed on them by law. This is an analysis that remains to be done as a future extension of this chapter.

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## Appendix

**Table A1. Linear models used for the decompositions**

Characteristic	Female 1985		Female 1998		Female 2009		Male 1985		Male 1998		Male 2009	
	B	p	B	p	B	p	B	p	B	p	B	p
(Intercept)	432	<0.001	497	<0.001	472	<0.001	440	<0.001	438	<0.001	496	<0.001
<i>Age group</i>												
Under 25	-14	0.081	0.48	>0.9	-27	0.004	0.72	>0.9	1.2	0.9	23	0.011
35-44	-5.9	0.4	-13	0.058	-5.9	0.4	-6.8	0.3	6.0	0.3	-5.9	0.3
25-34	—		—		—		—		—		—	
45-54	1.5	0.9	-12	0.12	-7.7	0.2	-0.28	>0.9	3.4	0.6	-5.2	0.4
55-64	5.8	0.6	-18	0.14	1.7	0.8	-4.1	0.7	11	0.3	-1.8	0.8
65+	-44	0.4	-171	0.010	132	0.001	-155	<0.001	-157	<0.001	-62	0.067
<i>Partner</i>												
No partner	—		—		—		—		—		—	
Partner labour force	-0.10	>0.9	-3.8	0.5	-0.76	0.9	7.0	0.3	3.2	0.6	-13	0.027
Partner not labour force	-24	0.066	-3.8	0.7	-7.4	0.3	5.9	0.4	13	0.077	-5.6	0.4
<i>Number of children under 16</i>												
No children	—		—		—		—		—		—	
1 child	6.5	0.3	-12	0.086	-6.1	0.3	-3.2	0.7	-0.57	>0.9	18	0.003
2 children	-7.5	0.4	0.91	>0.9	-11	0.11	-1.4	0.9	4.1	0.6	7.4	0.3
3+ children	-19	0.2	4.1	0.8	-18	0.089	5.2	0.6	17	0.087	23	0.006
<i>Educational attainment</i>												
No diploma	0.96	>0.9	-23	0.052	-35	<0.001	19	0.10	36	0.003	-8.1	0.4
Primary education	12	0.2	-26	0.045	-8.7	0.5	29	0.015	33	0.014	-37	0.030
Lower secondary ed. general	3.9	0.7	-2.6	0.8	-2.1	0.8	25	0.065	35	0.005	-27	0.042
Lower secondary ed. vocational	7.6	0.4	-2.0	0.8	-12	0.14	13	0.2	37	<0.001	-2.5	0.8
Upper secondary ed. vocational	-19	0.2	-4.0	0.8	-11	0.3	27	0.15	32	0.014	8.5	0.4
Upper secondary ed. general	—		—		—		—		—		—	
Post-secondary education	11	0.4	-1.1	>0.9	-3.6	0.7	3.8	0.8	36	0.001	-1.4	0.9
Bachelor and above	1.7	>0.9	-16	0.2	-0.28	>0.9	23	0.10	36	0.003	9.3	0.4
<i>Class</i>												
Managers	12	0.5	25	0.043	25	0.009	29	0.007	43	<0.001	29	<0.001
Scientific & cult. occupations	-46	0.004	-56	<0.001	-30	0.017	-20	0.3	-23	0.11	-57	<0.001
Teachers	-28	0.039	-71	<0.001	-35	0.003	-6.8	0.7	-50	0.013	-43	0.019
Intermediate occupations	—		—		—		—		—		—	
Clerks	8.5	0.3	-16	0.045	-5.0	0.5	-13	0.2	-4.9	0.6	-40	<0.001
Police	-62	0.2	19	0.7	51	0.063	41	0.010	53	<0.001	44	<0.001
Lower grade service sales employees	-7.7	0.5	-42	<0.001	1.1	0.9	-14	0.4	14	0.3	-24	0.036
Skilled manual workers	15	0.2	-14	0.4	-18	0.2	-6.4	0.4	-9.1	0.2	-1.7	0.8
Unskilled manual workers	9.2	0.5	-17	0.2	-29	0.011	-6.7	0.5	-20	0.029	-13	0.2

**Table A1. Continued**

Characteristic	Female 1985		Female 1998		Female 2009		Male 1985		Male 1998		Male 2009	
	B	p	B	p	B	p	B	p	B	p	B	p
<i>Industry</i>												
Agriculture	16	0.6	-16	0.6	35	0.2	18	0.4	39	0.017	-12	0.6
Agriculture industry	14	0.4	25	0.2	35	0.029	11	0.5	18	0.2	-8.1	0.6
Energy	-20	0.4	6.7	0.8	-12	0.7	-11	0.6	12	0.5	-10	0.4
Other industry	13	0.3	4.4	0.8	15	0.2	14	0.2	-0.66	>0.9	-15	0.13
Construction	-21	0.3	0.93	>0.9	-2.4	>0.9	37	0.005	35	0.002	20	0.069
Trade	14	0.2	17	0.2	-1.1	>0.9	29	0.019	25	0.020	-5.2	0.6
Transport	-5.7	0.8	5.2	0.8	13	0.4	36	0.006	43	<0.001	5.8	0.6
Finance	-1.3	>0.9	22	0.2	22	0.091	14	0.4	27	0.051	-14	0.3
Real estate	-17	0.5	27	0.3	-8.1	0.7	64	0.063	-2.5	>0.9	26	0.2
Education, health	13	0.3	0.35	>0.9	8.2	0.4	21	0.2	12	0.3	-5.0	0.7
Business services	—		—		—		—		—		—	
Services	18	0.2	-13	0.3	3.5	0.8	48	0.004	22	0.086	-12	0.3
Admin NGO	-2.5	0.8	-6.0	0.6	12	0.3	0.02	>0.9	8.4	0.5	-20	0.074
<i>Class of workers</i>												
Government	-7.1	0.4	-8.9	0.2	-9.8	0.10	-33	<0.001	-35	<0.001	-3.1	0.7
Private	—		—		—		—		—		—	
Part-time												
Part-time	-113	<0.001	-83	<0.001	-75	<0.001	-94	<0.001	-92	<0.001	-37	<0.001
Full-time	—		—		—		—		—		—	