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**Working Paper**

## Working Times and Overweight: Tight Schedules, Weaker Fitness?

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## DISCUSSION PAPER SERIES

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# Working Times and Overweight: Tight Schedules, Weaker Fitness?

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JULY 2018

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## ABSTRACT

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### **Working Times and Overweight: Tight Schedules, Weaker Fitness?\***

Although the rise in obesity and overweight is related to time constraints influencing health investments (e.g., exercise, shopping and cooking time, etc.), there is limited causal evidence to substantiate such claims. This paper estimates the causal effect of a change in working times on overweight and obesity drawing from evidence from the Aubrey reform implemented in the beginning of the past decade in France. We use longitudinal data from GAZEL (INSERM) 1997-2006 that contains detailed information about health indicators, including measures of height and weight. Taking the Alsace-Moselle department as a control group and a difference-in-differences strategy, we estimate the effect of a differential reduction in working times on body weight. Our results show evidence of 0.7% increase in average BMI and 8pp increase in the probability of overweight among blue collars exposed to the reform. In contrast, we find no effect among white collar workers. The effects are robust to different specifications and placebo tests.

**JEL Classification:** I13, J81

**Keywords:** obesity, overweight, working times, difference-in-differences, blue collar, white collar, Body Mass Index

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# 1. Introduction

The expansion of the world's obese and overweight population is associated with energy saving, social, and economic changes (Cutler et al., 2003; Lakdawalla and Philipson, 2009). More generally, the rapid process of social globalization has been associated with changes in health-related behaviours which have an impact on individual's fitness (Costa-Font and Mas, 2016). Such process includes the proliferation of fast foods (Maddock, 2004), as well as changes in employment conditions, specifically longer working hours. Existing reviews and meta-studies evidence that working time plays a role in explaining overweight and fitness (Bannai and Tamakoshi, 2014; Sparks et al., 1994; Purgeon et al., 1997). However, the underpinning mechanisms of these associations are unclear. Examining this matter is the main goal of this paper.

Time and energy consumed during work hours can exert an important influence on people's fitness (Solovieva et al., 2013). Nonetheless, the effects of working times on health behaviour, and specifically obesity and overweight, are largely not well understood. Those effects include changes in sedentary (non-sedentary) lifestyles among white collar (blue collar) workers, but especially changes in time constraints that modify the opportunity cost of investing in healthy lifestyles (e.g., cooking fresh foods, exercising, etc.). The most common explanation of the effect of long working hours on overweight focus on the stress response (Porter, 2010; Lee, 2017) and, more generally, poor lifestyles when people work beyond a certain threshold (Kim et al., 2016). Economic considerations, following a demand for health standpoint (Grossman, 1972), suggest that longer working hours constrain the amount of time individuals spend producing healthy activities, including food preparation, seeking preventive health care, etc. Employees compensate excessive working time with a higher consumption of fat and sugars, and reductions on physical exercise

(Oliver and Wardle, 1999, Schneider and Becker, 2005). On the other hand, increased working hours could have income effects too, namely rise labour income which can then be invested in health production. However, income effects might well differ between white and blue collar workers. For the latter, work exercise might well be an important source of physical exercise, hence a reduction in working times might not produce positive health investment effects.

The literature on the effects of working time on health is scattered. Ruhm (2005) found that a reduction in the number of hours worked has a positive impact on health among the United States population. Similarly, using evidence of time use surveys Hammermesh (2010) found that the amount of time eating and its spread over the day influence bodyweight and self-reported health. Hence, relaxing time constraints should produce better health, and allow individuals to adjust to life demands that require more exercise and lower calorie consumption. However, causal testing of such hypothesis requires an exogenous variation in working times among a control group. Verneill (2016), drawing from the French health survey to examine the Aubrey reform by looking at the difference between large and small firms, found an effect of working time reductions on smoking, alcohol consumption and physical activity, but other studies find no evidence of an effect (Jang et al., 2013). Hence, we need further understanding of the effect of exogenous changes in working times. Measuring the effect of a reduction in working times on obesity is crucial for policy purposes, and specifically to understand the underlying mechanisms to fight the so-called obesity epidemic.

The OECD (1998) has identified an overall downward trend in working time. This reduction does not necessarily entail homogeneous effects across the entire population, however. Blue collar workers might benefit from shorter working days, but at the same time they might see one specific

source of fitness reduced. In contrast, white collar workers might benefit from more free time, especially if such extra time is devoted to health-related activities –although white collar jobs tend to encompass more employment flexibility.

This paper exploits a unique natural experiment, namely the reduction of working time implemented in France in 2001. Askenazy (2013) estimates that this reform resulted in an overall 7% reduction of working time from 1995 to 2003 compared to 3% elsewhere in the EU. An important feature of the French reform lies in that it primarily affected individuals who worked for large companies. Indeed, we take advantage of a unique dataset that draws upon employees of Electricité de France-Gaz de France (EDF-GDF), a large company (hence affected by the reform) created after the second WW by the French government to provide energy<sup>1</sup>. Given that EDF -GDF employs individuals both in administrative and manufacturing positions, we can distinguish blue and white collar workers. We can also distinguish individuals who work in energy production and distribution; the latter sector was liberalised after 2000. Finally, given that the company is regionally heterogeneous we can identify employees by region, which is essential for the identification strategy adopted.

If obesity results from the excesses of modern life where individuals have limited time to cook their meals, more leisure time should provide individuals with time to prepare meals, and more generally less pressure. Failure to find evidence of obesity declines derived from reductions in working times would be suggestive of other factors playing out in explaining the onset of obesity.

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<sup>1</sup> Although from 2000-2004 there was a market liberalization to introduce competition in the distribution and energy transport sector, the effect did not influence the energy production. In our dataset, we are able to distinguish such effects.

Similarly, a reduction of working times might impact individual's stress, which in turn can reduce the probability of smoking and drinking, especially among men. Policy implications of this question are key, in that if positive, they would suggest that obesity results at least in part from changes in working conditions originated from a more global world. Likewise, evidence of reductions on smoking and alcohol intake would suggest that working time reforms can give rise to second-order effects.

Our empirical strategy consists in a difference-in-differences specification that exploits the variation across individuals who are white and blue collar workers, and specifically the variation in one region that has had historically different labour regulations and where the timing of the reform was different from the rest of France. In particular, we draw on the methodology proposed by Chemin and Wasmer (2009) that uses the specificities of Alsace-Moselle local regulations to build a control group. In such department, the legislation is inherited from the German presence between 1871 and 1918 and implies that workers have two extra holidays, which are included in the calculation of non-working time. Therefore, the reduction in working time was smaller in this region than in the rest of the country. For managers, the reform mainly consisted in an expansion of holidays without pay cuts (Askenazy, 2013), so it appears important to run a specific analysis for white collar workers.

Our findings suggest no evidence of changes in obesity immediately after the implementation of the reform. In contrast, we find evidence of an increase in overweight among blue collars. The effect was not significantly heterogeneous across age, gender, spousal employment status, and socio-economic groups as we report below. The presence of children in the household, however, does absorb the baseline effect on overweight among blue collars, which suggests a potential



substitution effect of working time for child care. The structure of the paper is as follows. The next section provides an overview of the relevant literature. Section three describes the institutional background. Section four reports the empirical strategy. Section five contains the results, and a final section concludes.

## **2. Working Times and Health**

### ***2.1 Opportunity Costs and Time Savings***

Some evidence links obesity and overweight to higher opportunity costs of time in a modern lifestyle. Accordingly, under significant time constraints a number of studies emphasise the role of fast foods in explaining the rise in obesity and overweight (Cutler et al., 2003; Chou et al., 2004), as well as the development of Walmart supercenters (Courtemanche & Carden 2011). Some of such effects are attributed to food prices that attract less affluent individuals into consuming high-calorie foods. However, another effect results from time savings, which is especially important under long working hours and competing time allocation activities. Nonetheless, the study of such time effects on health requires the examination of reforms that affect the individual's allocation of time. We specifically rely on the role of a unique regulation that reduced working times in France as explained in the following section.

### ***2.2 Working conditions and health***

The impact of working conditions on health has received some attention in the literature. Drawing on evidence from South Korea, Kim et al. (2008) found that labour market precarious conditions have deteriorated mean health. Similarly, other studies have found that both overtime and unpredictable work hours are associated with lower well-being (Golden et al., 2006; Scholars

et al., 2017). That is, there seem to be direct consequences of extended hours for non-work life, which in turn are deemed to reduce individual's well-being. Some studies have also found that long or unsocial hours affect family and social life alongside physical health (Artazcoz et al., 2013).

A reduction in working times might be hypothesized to allow more time to produce health or prevent ill health: it can result in less work pressure without affecting leisure time. Alternatively, the extra leisure time will be allocated to healthy and unhealthy activities depending on individuals' unobserved preferences, which could vary by age cohort, gender, educational attainment, household size, and commuting time, among other factors. At the same time, lower working times might mean only half day off every week, or a day off every second week, or a week off every ten rather than a reduction in an hour a day. Finally, while the reduction of working time was hypothesised to produce job creation through work-sharing (Crepon & Kramarz, 2002, Chemin & Wasmer, 2009), Esteao and Sa (2008) found that the reduction of the workweek in France from 39 to 35 hours in 2000-2002 had no effect on aggregate employment, though it did increase job turnover. The actual effect of working time reductions on health is thus an empirical questions that this study attempts to address.

### ***2.3 Effects of Working Time on Wealth and Well-being***

Although job creation is the main purpose of working time reductions, other side effects may include an improvement in wealth and well-being of those exposed to the reforms. However, the evidence of reduced working times on well-being is not conclusive. One the one hand, some studies indicate that a reduction of working times might increase the stress and work accidents of workers attempting to perform a similar workload in lesser time (Rudolf, 2014). In contrast,

Hamermesh et al. (2017) found that Japanese and Korean reforms that reduced working times did increase life satisfaction of those exposed. Similarly, Lepinteur (2016) drawing on evidence from France and Portugal from large and small firms found positive effects on life satisfaction.

### **3. Institutional Background**

The French labour market reform has been largely aiming at expanding employment. One of the policies formulated back in 1981 by the French left wing movement was the reduction of week working times (*réduction du temps du travail*) to 35 hours (Askenazy, 2013). In practice, the agreement reduced working times to 39 hours, so that only work in excess of 39 would be paid overtime, and the subsidy for reduced working times was increased. In 1996 a new conservative government incentivised the voluntary reduction of 10-15% of working times, but it was not until a new, and unexpected socialist led coalition government was elected in 1997 with the purpose of reducing unemployment that the original idea of a 35-hour working week was back in the agenda as a way of ‘work sharing’. The proposal attempted to reduce working times to 35 hours a week with full wage, but it would primarily apply to large companies (small companies were allowed a longer transition period) that would receive a generous tax compensation for the resulting rise in labour costs.

The working time regulation, referred as Aubry law, was passed in two blocs. The first bloc was passed in June 1998 (Aubry I), which reduced the legal working time limit from 39 to only 35 hours per week from 1<sup>st</sup> January 2000 for companies with more than 20 employees such as EDF-GDF. Hours worked beyond 35 would be treated as overtime hours subject to a 25% hourly rate bonus and a maximum of 130 per employee per year. The latter would result from collective

agreements between the company and trade unions. Hence, the regulation appears to be an important exogenous mechanism to identify the pure substitution effects of working time reductions, as there was no income effect. Although there might have been organizational changes around the same time, examining a single company such as EDF-GDF could help the identification of these effects.

However, the specifics of the reform were only included in the second bloc passed in 2000 (Aubry II). During the transition period there were intense negotiations that resulted in the implementation of 16,000 annual work hours as a legal norm, and allowed some flexibility for the companies so that they could ask their employees to work more hours in some weeks and compensate with fewer hours in other weeks. Hence, the standard workweek was reduced from 39 to 35 hours first on a voluntary basis coupled with incentive schemes conditional on employment creation (Robien act 1996, Aubry I act 1998), and then on a compulsory basis (Aubry II act 2000). The costs of the reform were originally estimated at 200,000 dollars per job created, which were supposed to be funded from alcohol and tobacco tax revenues. However, the fast adoption shifted up the costs, which required an injection from the unemployment fund (UNEDIC). This was deemed appropriate given that the reform was expected to reduce unemployment, and hence the outlays of unemployment benefits.

Although the Aubry law initially concerned private employers, it was also implemented in the public sector; hence, the so-called privatization of EDF-GDF after 2000 would have produced no effects on working times. However, there was very large heterogeneity in the implementation across sectors (Askenazy, 2013); therefore it appears convenient to examine a dataset that contains records of the same sector and activity to analyse the effects of such reform.

After the defeat of the incumbent socialist party in 2002, the law was not implemented in small companies and the maximum extra hours were increased from 180 to 240. After the 2007 defeat in the presidential elections the law was repealed.

During the period of implementation of the Aubry law there were very limited health reforms in the country. Most of these reforms aimed at reducing out-of-pocket health care payments and improving geographical access. However, France is among the OECD countries for which public financing of health care expenditure is the highest (Chevreul et al., 2015).

## **4. Empirical Design**

### ***4.1 Data***

This study employs GAZEL data, a dataset managed by the French National Institute for Health and Medical Research (INSERM) in collaboration with the occupational health and human resource departments of EDF-GDF. The GAZEL Cohort Study was set up in 1989 among EDF-GDF workers. It is an open epidemiologic laboratory characterized by a broad coverage of health problems and determinants, accessible to the community of researchers. At inception, the GAZEL Cohort Study included 20,624 volunteers then aged from 35 to 50 years (15,010 men and 5,614 women). The cohort is broadly diverse in terms of social, economic and occupational status, health and health-related behaviour.

The data, routinely collected, cover diverse dimensions and come from different sources: annual self-administered questionnaires (for morbidity, lifestyles, life events, etc.); personnel department

of EDF-GDF (for social, demographic, and occupational characteristics); EDF-GDF Special Social Insurance Fund (for sickness absences and cancer and ischemic heart disease registries), EDF-GDF occupational medicine department (for occupational exposure and working conditions), Social Action Fund (for healthcare utilization), Health Screening Centers (for standardised health examination and the constitution of a biobank), and the National Death Register (for causes of death). Follow-up has been excellent, and the number of subjects lost to follow-up is exceptionally low; active participation through the self-administered questionnaire is also large.

In particular, GAZEL database contains yearly self-reported data on weight and height, which was used to calculate the body mass index (BMI):

$$BMI_i = \frac{weight_i}{height_i^2}$$

where  $weight_i$  is the weight of individual  $i$  measured in kilograms and  $height_i^2$  is the square of the height of individual  $i$  measured in meters. Perceived health status and smoking behaviour is also collected on an annual basis. The former is measured with a scale from 1 to 8, where 1 is very good and 8 is very poor; the latter indicates whether the person smokes, and if so, the quantity of cigarettes smoked per day. Monthly household income is measured at the cohort inception. The original nine categories were grouped into three that roughly correspond to income terciles (low, middle and high). Other information employed in the analyses include age, sex, educational attainment, spouse's employment status and an indicator of the presence of children in the household. We also distinguish white collar from blue collar workers, and those in the distribution from those in the production sector to exploit the variation in the type of employment together with regional differences (see section 4.2). This is particularly relevant as

the activities of both blue collar workers and those in the production sector entail more physical activity. Moreover, this distinction allows taking into account possible changes in working conditions in the distribution sector after the liberalisation of this part of EDF-GDF in the beginning of the past decade. Unfortunately, we cannot identify the number of hours worked per individual but other studies have shown that the Aubry reform effectively reduced working times (e.g., Chemin and Wasmer, 2009).

Only respondents who worked during the reference period (1997-2006), with complete information, were considered in the analysis. Residents of territories were excluded. As displayed in Table 1, we were left with an unbalanced panel that contains 49,830 individual-wave observations (see Table A1 for a description of the number of observations by year). Figure A0 depicts the French departments where the Alsace-Moselle region can be identified in the extreme right.

**[Insert Table 1 about here]**

## ***4.2 Empirical Strategy***

Unlike other studies examining the effect of the Aubry reform, we employ data from a single, large company. Hence, we cannot rely on analysing the differential effects between large and small companies as other studies do (e.g. Berniell and Bietenbeck, 2017). Instead, we follow Chemin and Wasmer (2009) who estimate the causal effect of the Aubry reform by comparing Alsace-Moselle to the rest of France between 2001 and 2002. Indeed, the Alsace-Moselle region attenuated the impact of the Aubry reform by including two public holidays (December 26 and Good Friday) as part of the reduction in working time. In other words, this region reduced

working times by two days less, namely 16 hours of work per year. The 35-hour reform corresponded to a reduction of four hours per week throughout the 46-week workyear, for a total reduction of 184 hours. Therefore, there was a 9% variation in the impact of the 35-hour reform in Alsace-Moselle as opposed to the rest of the country. This regional disparity in the implementation of the Aubry reform, however, was only in effect between 2001 and 2002, since the local council forbade considering public holidays as part of the reduction in working time from 2003.

The difference-in-differences model estimated was the following:

$$\begin{aligned} \text{BMI}_{idt} = & \alpha_d + \delta_t + \beta_1(\text{treated} * 2001 - 2002)_{idt} + \beta_2(\text{treated} * -2000)_{idt} \\ & + \beta_3(\text{treated} * 2003 - 2006)_{idt} + \gamma X_{idt} + \varepsilon_{idt} \end{aligned}$$

where  $\text{BMI}_{idt}$  is the body mass index of individual  $i$ , from department  $d$ , at year  $t$ ;  $\alpha_d$  are department fixed effects;  $\delta_t$  are year fixed effects;  $(\text{treated} * 2001 - 2002)_{idt}$ ,  $(\text{treated} * 1999 - 2000)$ , and  $(\text{treated} * 2003 - 2006)_{idt}$  are binary variables that take the value of 1 if individual  $i$  lives in departments other than Alsace-Moselle (i.e. treated departments) in 2001-2002, 1999-2000, and 2003 or later, respectively; and  $X_{idt}$  refer to individual-level controls, namely, sex, age and education. The reference period is therefore 1997-1998. The coefficient of interest,  $\beta_1$ , indicates the relative change in body mass index of individual  $i$  from the control region after the reform. The coefficient  $\beta_2$  allows testing the parallel trend assumption. Standard errors were clustered at the department level. The models were also estimated using binary dependent variables, overweight and obesity. The former takes the value of 1 if the body mass index is 25 or more, while the latter takes the value of 1 if the body mass index is 30 or more.



Our main focus of interest lies in examining the entire sample of workers, as well as the specific effects on two different samples defined by type of job, namely white and blue collar jobs. The rationale for this distinction is that blue collar jobs mainly entail physically intensive activities (e.g. technicians), whilst white collar jobs predominantly entail mentally intensive activities (e.g. administrative). In other words, blue collar workers main physical activity is related to their job, while white collar workers physical activity might well be unrelated to their jobs. Hence, we expect different effects, even in opposite direction between the two types of workers. The definition of blue and white collars was taken from GAZEL databook.

Furthermore, we examine additional sources of heterogeneity that do not constitute different types of samples, such as whether the job was in the distribution or in the production unit of the energy sector, household income and spouse's employment interactions, as well as gender and age effects. In addition, the second part of our empirical strategy addresses potential mechanisms, and more specifically, the role of children in the household. Given that the additional time gained with the Aubry reform could be spent on multiple competing activities including child care, we examine the specific heterogeneity resulting from the presence of children in the household. We also analyse potential effects on health and health behaviours, namely self-reported health and smoking. Finally, our empirical strategy involves some placebo tests that use as control areas of the country that were affected by the reform to see if there are any random effects emerging. Specifically, we examine two regions, Ile de France and Auvergne, which are geographically far from Alsace-Moselle and hence unlikely to be affected by factors different to the Aubry reform that may be present in neighbouring regions.

### ***4.3 Pre-reform Trends***

As preliminary evidence of the suitability of the identification strategy, we examine pre-reform trends of outcome variables. Figure 1 reports the trends in overweight and body mass index for the period 1997 – 2006 for the entire sample, as well as for blue and white collar workers. It becomes apparent that pre-treatment trends (up to 2001) were comparable between Alsace-Moselle and the rest of France, but differed around the treatment years (2001-2002) for both overweight and body mass index. Similar trends are reported for obesity in the appendix in Figure A1.

**[Insert Figure 1 about here]**

Specifically, when we split the sample we find evidence of differential impacts of the reform in both overweight and BMI between blue and white collars, and between Alsace-Moselle and the rest of France. However, pre-trends seem to be consistently similar across both types of regions. This is confirmed in formal testing (see the estimates of coefficient  $\beta_2$  in section 5.1 below). Furthermore, we also provide estimates without pre-trends so as to examine the effects of controlling for pre-existing trends.

## **5. Results**

### ***5.1 Baseline Results***

To estimate the effect of an ameliorated exposure to the Aubry reform (reduced working times, or henceforth the treatment) we examine changes in Body Mass Index and overweight for the total sample, and especially, for the subsample of blue and white collar workers. The rationale for

examining different samples lies in the fact that blue collar jobs mainly entail physically intensive activities, and hence can be reasonably considered a separate group of individuals.

Table 2 reports the estimates for both BMI and overweight for the entire sample and the subsample of blue and white collar workers. Importantly, we find that although there was no significant effect overall, blue collar workers in treated areas (where the 35-hour reform was fully enforced) had a BMI 0.17 units higher than their counterparts in control areas (Alsace-Moselle). Given that the average BMI is 25.5 (Table 1), such an effect entails a 0.7% increase in BMI. Similarly, we find that the reform significantly increased the probability of overweight for the entire sample in 2.7pp and 8pp among the sample of blue collar workers. These results were estimated using ordinary least squares (OLS) but not significant difference is found when probit models are employed (Table A2). We find no effect among the sample of white collar workers. Table A3 reports similar estimates for obesity, and suggests no evidence of an effect. Tables B1-B3 in the Appendix provide the full estimates with the coefficients for all the controls. Results without controls for overweight among blue collars show a consistent picture (columns 2 and 5, Table 2).

**[Insert Table 2 about here]**

## **5.2 Robustness Checks**

Next, we present the estimates of Table 2 but excluding pre-treatment trends in Table 3.

Importantly, we find that although the effect on BMI do not emerge as significant anymore, the effects on overweight are barely unchanged for both the entire sample and the subsample of blue collar workers. Specifically, the effect is 2.2pp and 7.3pp for the entire and blue collar samples,

respectively. Consistently, no significant effect is found among white collar workers. Tables B4-B5 in the Appendix provide estimates with the coefficients for all the controls.

Section 5.3 below explores spousal employment status, household income, and the activity sector (distribution vs. production) as potential sources of heterogeneity, but we first included those variables as additional controls to assess the validity of the results presented in Table 2. Estimates are found to barely change, however (Tables C1-C6 in the Appendix).

**[Insert Table 3 about here]**

Finally, to test the validity of the identification strategy employed, we selected two densely populated regions to conduct a placebo test, namely Ile de France in the north and Auvergne in the south. This test basically consisted of replacing Alsace-Moselle, the control group, by each of the other regions. As shown in Table 9, the results were not statistically significant, which supports the methodological approach employed.

**[Insert Table 9 about here]**

### ***5.3 Heterogeneity of the Results***

#### **5.3.1 Area of Activity**

Given that the distribution sector of EDF-GDF underwent a liberalization process around the same time of the Aubry reform, one could expect heterogenous effects depending on the area of activity individuals were working on. Hence, we first report estimates of triple interactions of the

treatment and the area of activity. Table 4 displays such estimates and suggests that the results are only significant for the production area; specifically, slightly larger coefficients are observed, 3pp and 9pp for the entire sample, and the subsample of blue collar workers, respectively.

Furthermore, Tables D1 and D2 in the Appendix provide additional estimates where we split the sample by area of activity. Importantly, when the effect for the reform is estimated among blue collars working in the production area, we see an increase of 32pp in BMI, which accrues to a 12% increase. Moreover, we find that for both distribution and production areas an effect of the reform on overweight ranging between 8-9pp. However, among the distribution sector we find a negative effect among white collar workers consistent with the idea of a health investment effect of extra time but only applicable among the distribution sample alone.

**[Insert Table 4 about here]**

### 5.3.2 Spousal Employment Status and Income Effects

The effects of the French reform might have been heterogeneous depending on respondents' marital status, and more specifically, on whether the spouse is employed. A reduction in working times of one spouse might not necessarily entail an equivalent reduction in the other spouse's working time if the latter was working in a smaller company and hence was not affected by the reform. Table 5 in Panel A provides estimates that suggest that the effect does not vary by spousal employment.

**[Insert Table 5 about here]**

Another potential source of heterogeneity is respondents' income. One could hypothesize that more affluent individuals might not respond to a working time reduction in the same way as their lower income counterparts. Panel B of Table 5 reports the results of such interaction, and indicate no evidence of this source of heterogeneity. Full estimates with all controls are reported in tables E1-E4 in the Appendix.

### 5.3.3 Gender and Age Heterogeneity

The last important sources of heterogeneity considered are gender and age, which we report in Table 6 and Tables E5-E8 (in the Appendix). It could well be the case that old age individuals exhibited a different reaction, or that men and women exhibited different preferences with regards to health production. However, estimates suggest no evidence of an heterogeneous effect on both gender and age.

**[Insert Table 6 about here]**

## 5.4 *Mechanisms*

Next, we examine the potential mechanisms driving the effect of the French reform on overweight. Specifically, we identified two mechanisms: the presence of children in the household and the potential effect of the reform on health and health behaviour.

The presence of children in the household could arguably pick up a potential substitution effect of working time for child care. To examine this question, Table 7 reports evidence of the heterogeneity of our estimates derived from the presence of children. Estimates suggest that the

presence of children does indeed absorb our baseline results. Again, estimates containing the full list of controls are reported in the Appendix (Tables E9 and E10).

**[Insert Table 7 about here]**

An alternative mechanism could be through specific effects on health, or health behaviours such as smoking. The latter is found to exert some influence on the probability of overweight and obesity (Gruber and Frakes, 2006). Nonetheless, Table 8 suggests no evidence of an effect of the reform on self-assessed health, or in both the internal and external margins of smoking. The full list of controls are reported in Tables F1-F4 in the Appendix.

**[Insert Table 8 about here]**

## **6. Conclusion**

This paper has examined the effect of the French working time reduction on overweight. We have taken advantage that one department (Alsace-Moselle) exhibited a reduced implementation of the reform. Against the hypothesis of health investment effects, we find that reduced working times increase overweight among blue collar workers and exert no effect on the rest (0.7% increase in BMI). Our estimates suggest that blue collar workers in treated areas (where the 35-hour reform was fully enforced) had a BMI 0.17 units higher and a probability of overweight 8pp higher than their counterparts in control areas (Alsace-Moselle). However, we find no effect on obesity, in part given the significant genetic influences and that small working time

interventions might not change significantly the environment on which individuals make decisions .

Our findings also indicate that individuals working in the production sector mainly drives the increasing overweight, and that reduced working time was employed in reducing external childcare rather than increasing leisure time. These results are consistent with other evidence on the French reform (Goux et al., 2014), and overall suggest that policies to reduce waiting times alone does not necessarily produce better fitness, either because they do not modify the environment (e.g., individuals take more holidays etc.), or because they produce counterproductive incentives in a population (blue collar workers) for who their job related physical activity is its primary form of exercise. One potential way out is to make reduced time conditional on exercise, or to combine working time reduction with subsidies for healthy lifestyles.



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**Table 1. Sample characteristics at first interview (standard errors in parenthesis)**

Characteristics	Total n=11,607		Alsace-Moselle (control) n=352		Rest of France (treated) n=11,255	
Age	51.1	(.028)	51.2	(.146)	51.1	(.028)
Sex						
Male	74.0%	(.004)	84.4%	(.019)	73.7%	(.004)
Female	26.0%	(.004)	15.6%	(.019)	26.3%	(.004)
Education						
Basic certificate	4.2%	(.002)	2.0%	(.007)	4.3%	(.002)
Junior secondary certificate	13.6%	(.003)	5.7%	(.012)	13.9%	(.003)
Baccalaureate	7.9%	(.003)	8.5%	(.015)	7.9%	(.003)
Certificate of professional competence	27.2%	(.004)	38.6%	(.026)	26.9%	(.004)
Vocational certificate	23.1%	(.004)	25.3%	(.023)	23.0%	(.004)
Undergraduate degree	7.1%	(.002)	8.2%	(.015)	7.1%	(.002)
Other academic degree	14.4%	(.003)	8.8%	(.015)	14.6%	(.003)
Other diploma	2.4%	(.001)	2.8%	(.009)	2.4%	(.001)
Work position						
White collar	46.8%	(.005)	40.9%	(.026)	47.0%	(.005)
Blue collar	53.2%	(.005)	59.1%	(.026)	53.0%	(.005)
Body mass index	25.5	(.032)	26.3	(.181)	25.4	(.033)

Notes: Body mass index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. n = sample size.

**Table 2. Effect of working time reduction on body mass index and overweight, 1997-2006**

	All 1	Blue collars 2	White collars 3	All 4	Blue collars 5	White collars 6
Panel A. Dependent variable = Body Mass Index						
(Treated)*(2001-2002)	-0.028 (0.309)	-0.021 (0.08)	0.267 (0.741)	0.077 (0.321)	0.170** (0.084)	0.104 (0.819)
(Treated)*(1999-2000)	0.001 (0.2)	0.034 (0.058)	-0.001 (0.419)	0.003 (0.213)	0.07 (0.062)	-0.092 (0.441)
(Treated)*(2003-2006)	-0.49 (0.662)	-1.613*** (0.602)	0.448 (0.945)	-0.584 (0.709)	-1.338** (0.589)	0.095 (1.003)
R <sup>2</sup>	0.02	0.03	0.02	0.12	0.10	0.12
Panel B. Dependent variable = Overweight						
(Treated)*(2001-2002)	0.01 (0.012)	0.054*** (0.019)	-0.005 (0.034)	0.023* (0.014)	0.078*** (0.019)	-0.029 (0.044)
(Treated)*(1999-2000)	0.003 (0.027)	0.009 (0.018)	-0.001 (0.046)	0.003 (0.029)	0.013 (0.02)	-0.012 (0.048)
(Treated)*(2003-2006)	-0.025 (0.063)	-0.090* (0.052)	0.028 (0.093)	-0.04 (0.068)	-0.054 (0.054)	-0.023 (0.1)
Year fixed effects	yes	yes	yes	yes	yes	yes
Department fixed effect	yes	yes	yes	yes	yes	yes
Controls	no	no	no	yes	yes	yes
R <sup>2</sup>	0.02	0.03	0.02	0.12	0.10	0.12
N	49,830	23,297	26,533	49,830	23,297	26,533
Year fixed effects	yes	yes	yes	yes	yes	yes
Department fixed effect	yes	yes	yes	yes	yes	yes
Controls	no	no	no	yes	yes	yes

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

**Table 3. Alternative Specification without Pre-Treatment Trends**

	All	Blue collars	White collars
Panel A. Dependent variable = Body Mass Index			
(Treated)*(2001-2002)	0.076	0.142	0.142
	(0.243)	(0.091)	(0.664)
(Treated)*(2003-2006)	-0.585	-1.366**	0.132
	(0.626)	(0.57)	(0.832)
R <sup>2</sup>	0.12	0.10	0.12
Panel B. Dependent variable = Overweight			
(Treated)*(2001-2002)	0.022***	0.073***	-0.024
	(0.008)	(0.02)	(0.025)
(Treated)*(2003-2006)	-0.041	-0.059	-0.018
	(0.056)	(0.047)	(0.081)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.. Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

**Table 4. Robustness Checks: Heterogeneous effects on production and distribution**

	All	Blue collars	White collars
Panel A. Dependent variable = Body Mass Index			
(Treated)*(2001-2002)	0.125 (0.303)	0.16 (0.109)	0.188 (0.812)
Distribution	0.101 (0.083)	0.036 (0.118)	0.177* (0.097)
(Treated)*(2001-2002)*(Distribution)	-0.104 (0.093)	0.022 (0.146)	-0.211* (0.127)
(Treated)*(1999-2000)	0.058 (0.2)	0.061 (0.064)	0.02 (0.434)
(Treated)*(1999-2000)*(Distribution)	-0.112* (0.057)	0.017 (0.092)	-0.237*** (0.08)
(Treated)*(2003-2006)	-0.517 (0.685)	-1.342** (0.571)	0.198 (0.989)
(Treated)*(2003-2006)*(Distribution)	-0.148 (0.128)	0.014 (0.241)	-0.239 (0.185)
R <sup>2</sup>	0.11	0.08	0.12
Panel B. Dependent variable = Overweight			
(Treated)*(2001-2002)	0.033** (0.014)	0.094*** (0.022)	-0.023 (0.043)
Distribution	0.008 (0.011)	0.007 (0.014)	0.012 (0.014)
(Treated)*(2001-2002)*(Distribution)	-0.02 (0.013)	-0.032 (0.022)	-0.014 (0.017)
(Treated)*(1999-2000)	0.01 (0.028)	0.01 (0.021)	0.005 (0.046)
(Treated)*(1999-2000)*(Distribution)	-0.013* (0.008)	0.006 (0.012)	-0.033*** (0.012)
(Treated)*(2003-2006)	-0.028 (0.066)	-0.037 (0.054)	-0.015 (0.098)
(Treated)*(2003-2006)*(Distribution)	-0.026* (0.015)	-0.039 (0.031)	-0.02 (0.021)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

**Table 5. Heterogeneous Effects by Spousal Employment Status and Income on Overweight**

	All	Blue collars	White collars
Panel A. Spouse Employment Status			
(Treated)*(2001-2002)	0.041*	0.082***	0.001
	(0.022)	(0.023)	(0.046)
(Treated)*(1999-2000)	0.006	0.028	-0.025
	(0.036)	(0.03)	(0.05)
(Treated)*(2003-2006)	-0.009	-0.066	0.041
	(0.082)	(0.07)	(0.109)
(Treated)*(2001-2002)*spouse works	-0.024*	-0.009	-0.034
	(0.012)	(0.022)	(0.023)
(Treated)*(1999-2000)*spouse works	-0.015	-0.025**	-0.005
	(0.01)	(0.012)	(0.017)
(Treated)*(2003-2006)*spouse works	-0.034**	0.007	-0.054**
	(0.016)	(0.032)	(0.026)
Spouse works	-0.019**	-0.02	-0.015
	(0.009)	(0.015)	(0.015)
R <sup>2</sup>	0.1	0.07	0.12
N	42,250	20,585	21,665
Panel B. Monthly Household Income			
(Treated)*(2001-2002)	0.023	0.072***	-0.031
	(0.019)	(0.026)	(0.052)
(Treated)*(1999-2000)	0.004	0.009	-0.002
	(0.032)	(0.023)	(0.054)
(Treated)*(2003-2006)	-0.048	-0.078	-0.028
	(0.073)	(0.062)	(0.107)
(Treated)*(2001-2002)*middle income	-0.003	0.013	-0.015
	(0.018)	(0.029)	(0.023)
(Treated)*(2001-2002)*high income	0.001	0.01	0
	(0.017)	(0.029)	(0.023)
(Treated)*(1999-2000)*middle income	-0.01	0.005	-0.032**
	(0.012)	(0.016)	(0.016)
(Treated)*(1999-2000)*high income	0.001	0.003	-0.009
	(0.014)	(0.02)	(0.017)
(Treated)*(2003-2006)*middle income	-0.004	0.042	-0.027
	(0.026)	(0.041)	(0.03)
(Treated)*(2003-2006)*high income	0.018	0.033	0.013
	(0.025)	(0.038)	(0.031)
R <sup>2</sup>	0.11	0.08	0.12



N	48,873	22,811	26,062
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

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Note: Body Mass Index =  $\text{weight}/(\text{height}^2)$ ; estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

**Table 6. Gender Heterogeneous Effects**

	All	Blue collars	White collars
Panel A. Dependent variable = Body Mass Index			
(Treated)*(2001-2002)	0.095	0.156*	0.165
	(0.321)	(0.086)	(0.807)
(Treated)*(1999-2000)	0.006	0.062	-0.033
	(0.215)	(0.069)	(0.435)
(Treated)*(2003-2006)	-0.587	-1.399**	0.175
	(0.711)	(0.604)	(0.992)
(Treated)*(2001-2002)*female	-0.047	0.108	-0.11
	(0.095)	(0.255)	(0.133)
(Treated)*(1999-2000)*female	-0.009	0.058	-0.124
	(0.06)	(0.121)	(0.084)
(Treated)*(2003-2006)*female	0.007	0.212	-0.108
	(0.157)	(0.32)	(0.179)
R <sup>2</sup>	0.12	0.1	0.12
Panel B. Dependent variable = Overweight			
(Treated)*(2001-2002)	0.02	0.076***	-0.036
	(0.015)	(0.02)	(0.044)
(Treated)*(1999-2000)	0.005	0.012	-0.005
	(0.029)	(0.021)	(0.047)
(Treated)*(2003-2006)	-0.043	-0.064	-0.02
	(0.069)	(0.056)	(0.099)
(Treated)*(2001-2002)*female	0.007	0.017	0.014
	(0.011)	(0.026)	(0.015)
(Treated)*(1999-2000)*female	-0.005	0.008	-0.016
	(0.009)	(0.014)	(0.011)
(Treated)*(2003-2006)*female	0.007	0.036	-0.005
	(0.022)	(0.037)	(0.024)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

**Table 7. Children Specific Heterogeneous Effects**

	All	Blue collars	White collars
Panel A. Dependent variable = Body Mass Index			
(Treated)*(2001-2002)	0.061	0.157	0.104
	(0.372)	(0.228)	(0.819)
(Treated)*(1999-2000)	-0.006	0.254	-0.411
	(0.354)	(0.167)	(0.686)
(Treated)*(2003-2006)	-0.527	-0.994	0.049
	(0.773)	(0.902)	(0.917)
(Treated)*(2001-2002)*haschild	0.248**	0.165	0.287
	(0.12)	(0.171)	(0.191)
(Treated)*(1999-2000)*haschild	0.235***	0.182*	0.301*
	(0.08)	(0.103)	(0.152)
(Treated)*(2003-2006)*haschild	0.208	-0.006	0.305
	(0.188)	(0.283)	(0.246)
Haschild	-0.214***	-0.164*	-0.253*
	(0.08)	(0.09)	(0.142)
R <sup>2</sup>	0.12	0.10	0.12
Panel B. Dependent variable = Overweight			
(Treated)*(2001-2002)	-0.005	0.051	-0.068
	(0.027)	(0.035)	(0.05)
(Treated)*(1999-2000)	-0.002	0.033	-0.065
	(0.042)	(0.028)	(0.073)
(Treated)*(2003-2006)	-0.019	-0.001	-0.036
	(0.063)	(0.075)	(0.108)
(Treated)*(2001-2002)*haschild	0.034*	0.044**	0.024
	(0.02)	(0.022)	(0.031)
(Treated)*(1999-2000)*haschild	0.018	0.023	0.014
	(0.015)	(0.019)	(0.021)
(Treated)*(2003-2006)*haschild	0.032	0.037	0.026
	(0.026)	(0.033)	(0.035)
Haschild	-0.037***	-0.040**	-0.032*
	(0.012)	(0.016)	(0.019)
R <sup>2</sup>	0.11	0.08	0.12
N	36,249	17,207	19,042
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index =  $\text{weight}/(\text{height}^2)$ ; estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

**Table 8. Effects on health and health related behaviours**

	All	Blue collars	White collars
Panel A. Dependent variable = Self-assessed health [Very good=1, Very poor=8]			
(Treated)*(2001-2002)	-0.089*	-0.104	-0.048
	(0.047)	(0.09)	(0.038)
(Treated)*(1999-2000)	-0.018	-0.026	-0.004
	(0.049)	(0.039)	(0.078)
(Treated)*(2003-2006)	0.201	0.247	0.182
	(0.141)	(0.189)	(0.149)
R <sup>2</sup>	0.02	0.03	0.03
N	49,641	23,214	26,427
Panel B. Dependent variable = Self-assessed health [Good =1, Suboptimum=0]			
(Treated)*(2001-2002)	0.014	0.027	-0.009
	(0.015)	(0.017)	(0.012)
(Treated)*(1999-2000)	0.014	0.009	0.021
	(0.021)	(0.014)	(0.032)
(Treated)*(2003-2006)	-0.026	-0.058	-0.006
	(0.05)	(0.058)	(0.067)
N	49,619	23,209	26,401
Panel C. Dependent variable = Smokes [Yes=1, No=0]			
(Treated)*(2001-2002)	-0.001	-0.005	-0.000
	(0.015)	(0.01)	(0.036)
(Treated)*(1999-2000)	0.032***	0.019**	0.045**
	(0.007)	(0.008)	(0.02)
(Treated)*(after 2002)	-0.041	-0.053	-0.042
	(0.052)	(0.043)	(0.055)
N	48,713	22,785	25,841
Panel D. Dependent variable = Cigarettes smoked for those who smoke			
(Treated)*(2001-2002)	0.928	-1.856	1.996
	(1.735)	(1.574)	(2.907)
(Treated)*(1999-2000)	0.814	0.88	1.326
	(1.326)	(0.616)	(2.286)
(Treated)*(2003-2006)	2.451	10.845***	-0.908
	(1.674)	(2.141)	(3.082)
R <sup>2</sup>	0.06	0.12	0.1
N	6,428	2,954	3,474
Year fixed effects	yes	yes	yes

Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

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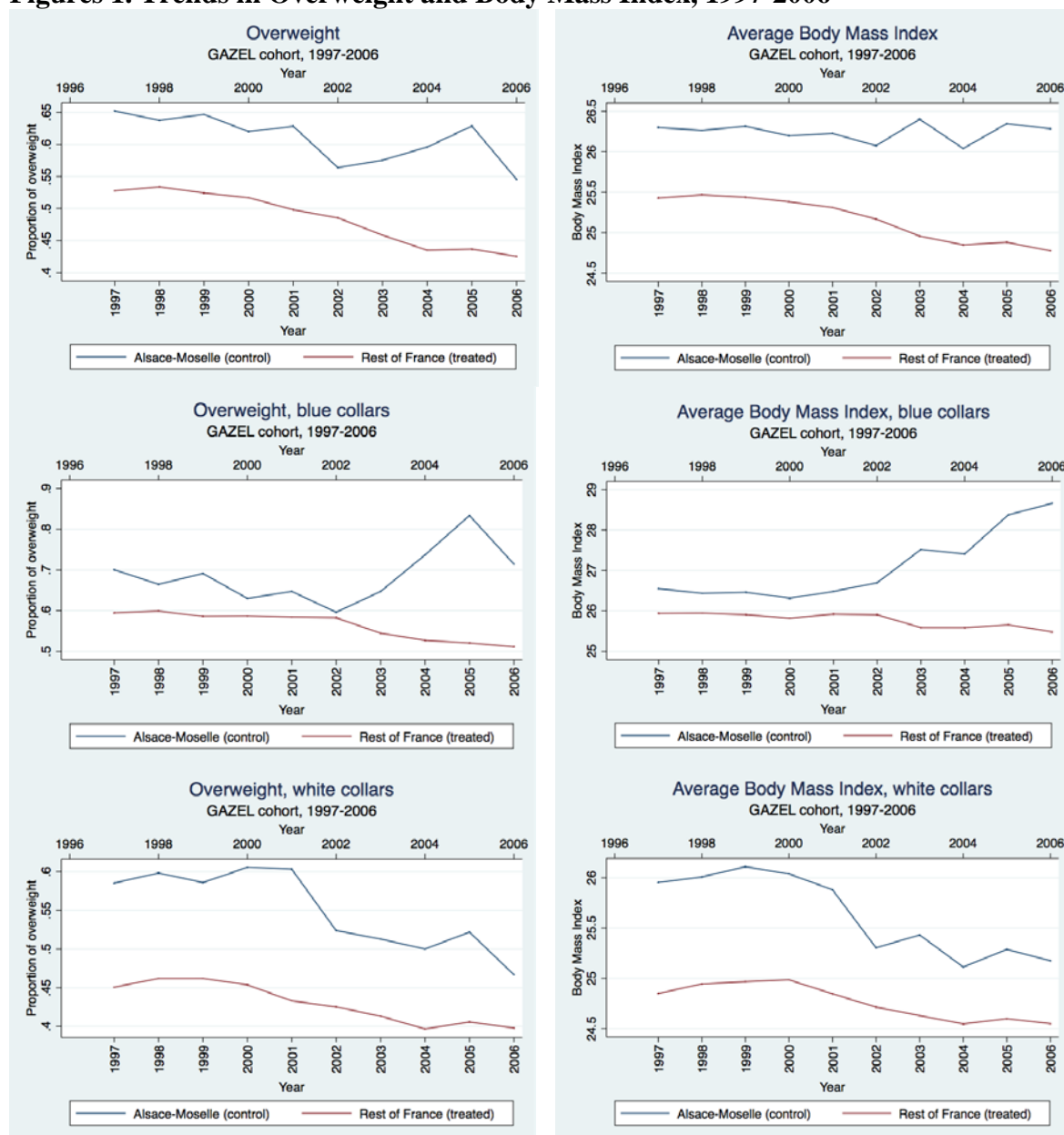
Note: Only respondents who worked during reference period. Panel A and D = OLS estimates; Panel B and C = Probit estimates (marginal effect showed). Standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

**Table 9. Placebo test using other regions as control groups (effects on overweight)**

	All	Blue collars	White collars
(Treated_IledeFrance)*(2001-2002)	-0.006 (0.013)	-0.027 (0.021)	0.004 (0.018)
(Treated_IledeFrance)*(1999-2000)	-0.01 (0.006)	-0.026* (0.014)	0.005 (0.011)
(Treated_IledeFrance)*(2003-2006)	-0.026 (0.021)	-0.053** (0.026)	-0.012 (0.023)
R <sup>2</sup>	0.11	0.08	0.12
(Treated_Auvergne)*(2001-2002)	0.011 (0.022)	-0.022 (0.064)	0.039** (0.018)
(Treated_Auvergne)*(1999-2000)	0.007 (0.011)	0.018 (0.027)	0.004 (0.012)
(Treated_Auvergne)*(2003-2006)	0.021 (0.05)	-0.068 (0.112)	0.070*** (0.027)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

**Figures 1. Trends in Overweight and Body Mass Index, 1997-2006**



Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period.



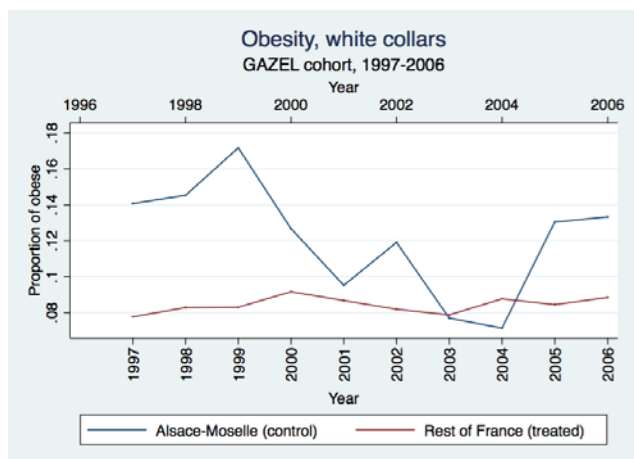
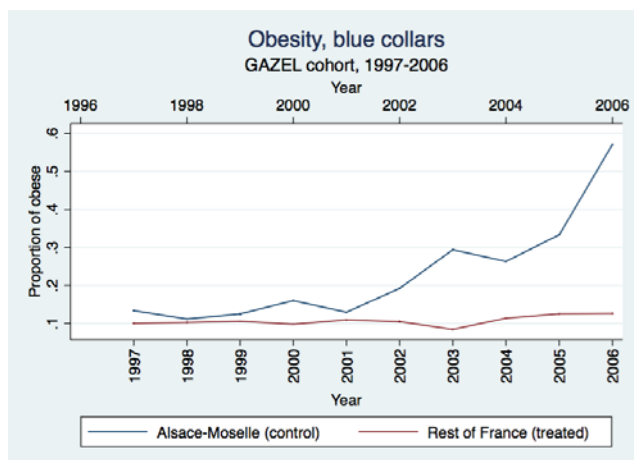
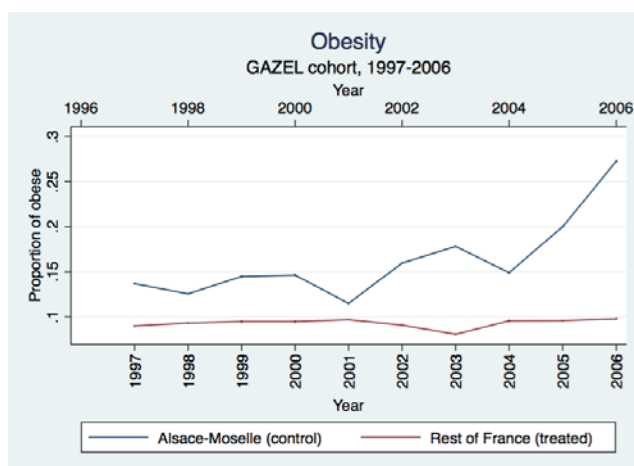
## Appendix

**Figure A0. Regions of France**



Note: In 2014, the French Parliament approved an initiative that reduced the number of regions from 22 to 13; the map shows the existing 22 regions during the Aubry reform.

**Figure A1. Trends in Obesity, 1997-2006**



Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period.

**Table A1. Number of Observations by Year**

<b>Year</b>	<b>Frequency</b>	<b>%</b>
1997	10,505	21.1
1998	9,370	18.8
1999	7,982	16.0
2000	6,141	12.3
2001	5,045	10.1
2002	3,438	6.9
2003	2,518	5.1
2004	1,935	3.9
2005	1,574	3.2
2006	1,322	2.7
Total	49,830	100.0

Note: The sample include only respondents who work during reference period (1997-2006), with complete information. Territories are excluded. Unbalanced panel: 11,607 individuals; 49,830 observations.

**Table A2. Effect of Working Time Reduction on Overweight, 1997-2006**  
**Probit Estimates (marginal effects)**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.027* (0.015)	0.084*** (0.022)	-0.029 (0.048)
(Treated)*(1999-2000)	0.004 (0.033)	0.014 (0.022)	-0.012 (0.053)
(Treated)*(2003-2006)	-0.042 (0.075)	-0.064 (0.069)	-0.021 (0.105)
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Department fixed effect	Yes	Yes	Yes
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. Standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

**Table A3. Effect of Working Time Reduction on Obesity, 1997-2006**

	All	Blue collars	White collars
Panel A. OLS, no controls			
(Treated)*(2001-2002)	0.005 (0.016)	-0.020 (0.012)	0.047 (0.044)
(Treated)*(1999-2000)	-0.010 (0.008)	-0.016 (0.013)	-0.000 (0.035)
(Treated)*(2003-2006)	-0.054 (0.036)	-0.200*** (0.041)	0.061 (0.053)
R <sup>2</sup>	0.01	0.02	0.02
Panel B. OLS, with controls			
(Treated)*(2001-2002)	0.007 (0.016)	-0.017 (0.013)	0.044 (0.047)
(Treated)*(1999-2000)	-0.010 (0.008)	-0.015 (0.014)	-0.003 (0.036)
(Treated)*( 2003-2006)	-0.056 (0.038)	-0.194*** (0.039)	0.057 (0.056)
R <sup>2</sup>	0.02	0.03	0.02
Panel C. Probit estimates (marginal effects), with controls			
(Treated)*(2001-2002)	0.008 (0.014)	-0.011 (0.010)	0.038 (0.046)
(Treated)*(1999-2000)	-0.006 (0.007)	-0.010 (0.010)	-0.000 (0.023)
(Treated)*( 2003-2006)	-0.033* (0.019)	-0.080*** (0.007)	0.050 (0.062)
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. Standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

**Table B1. Effect of Treatment on Body Mass Index, 1997-2006**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.077 (0.321)	0.170** (0.084)	0.104 (0.819)
(Treated)*(1999-2000)	0.003 (0.213)	0.070 (0.062)	-0.092 (0.441)
(Treated)*(2003-2006)	-0.584 (0.709)	-1.338** (0.589)	0.095 (1.003)
Female	-2.296*** (0.103)	-2.270*** (0.155)	-2.152*** (0.133)
Age	1.149*** (0.166)	1.118*** (0.303)	1.200*** (0.223)
Age <sup>2</sup>	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.278)	-1.088*** (0.405)
Baccalaureate	-0.987*** (0.272)	-1.032*** (0.324)	-0.952** (0.414)
Professional competence	-0.837*** (0.242)	-0.721*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.082*** (0.264)	-0.980*** (0.300)	-1.156*** (0.424)
Undergraduate degree	-1.224*** (0.305)	-1.325*** (0.314)	-1.126** (0.502)
Other academic degree	-1.401*** (0.247)	-1.292*** (0.260)	-1.399*** (0.401)
Other diploma	-1.178*** (0.317)	-0.764** (0.336)	-1.477*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.371 (4.432)	-3.983 (8.076)	-5.454 (5.974)
R <sup>2</sup>	0.12	0.10	0.12
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table B2. Effect of Treatment on Overweight, 1997-2006**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.023* (0.014)	0.078*** (0.019)	-0.029 (0.044)
(Treated)*(1999-2000)	0.003 (0.029)	0.013 (0.020)	-0.012 (0.048)
(Treated)*(2003-2006)	-0.040 (0.068)	-0.054 (0.054)	-0.023 (0.100)
Female	-0.324*** (0.011)	-0.308*** (0.021)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.124*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.051)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.168*** (0.039)
Other diploma	-0.108** (0.042)	-0.069 (0.050)	-0.140*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.040*** (0.599)	-2.717** (1.083)	-3.305*** (0.670)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table B3. Effect of Treatment on Obesity, 1997-2006**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.007 (0.016)	-0.017 (0.013)	0.044 (0.047)
(Treated)*(1999-2000)	-0.010 (0.008)	-0.015 (0.014)	-0.003 (0.036)
(Treated)*(2003-2006)	-0.056 (0.038)	-0.194*** (0.039)	0.057 (0.056)
Female	-0.031*** (0.008)	-0.036*** (0.011)	-0.021** (0.010)
Age	0.031** (0.013)	0.025 (0.024)	0.035** (0.015)
Age <sup>2</sup>	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.062*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.066*** (0.018)	-0.073*** (0.024)	-0.059* (0.033)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.068** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.100*** (0.028)	-0.069** (0.034)
Other academic degree	-0.088*** (0.017)	-0.106*** (0.024)	-0.064** (0.028)
Other diploma	-0.089*** (0.023)	-0.059* (0.032)	-0.108*** (0.037)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.693** (0.330)	-0.610 (0.614)	-0.776* (0.403)
R <sup>2</sup>	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.



**Table B4. Alternative Specification without Pre-treatment Trends, BMI**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.076 (0.243)	0.142 (0.091)	0.142 (0.664)
(Treated)*(2003-2006)	-0.585 (0.626)	-1.366** (0.570)	0.132 (0.832)
Female	-2.296*** (0.103)	-2.270*** (0.155)	-2.152*** (0.133)
Age	1.149*** (0.166)	1.118*** (0.303)	1.200*** (0.223)
Age <sup>2</sup>	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.278)	-1.088*** (0.405)
Baccalaureate	-0.987*** (0.272)	-1.032*** (0.324)	-0.952** (0.414)
Professional competence	-0.837*** (0.242)	-0.721*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.082*** (0.264)	-0.979*** (0.300)	-1.156*** (0.424)
Undergraduate degree	-1.224*** (0.305)	-1.325*** (0.314)	-1.125** (0.502)
Other academic degree	-1.401*** (0.247)	-1.292*** (0.260)	-1.399*** (0.401)
Other diploma	-1.178*** (0.317)	-0.764** (0.336)	-1.477*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.371 (4.432)	-3.978 (8.076)	-5.456 (5.974)
R <sup>2</sup>	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table B5. Alternative Specification without Pre-treatment Trends, Overweight**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.022*** (0.008)	0.073*** (0.020)	-0.024 (0.025)
(Treated)*(2003-2006)	-0.041 (0.056)	-0.059 (0.047)	-0.018 (0.081)
Female	-0.324*** (0.011)	-0.308*** (0.021)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.123*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.052)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.168*** (0.039)
Other diploma	-0.108** (0.042)	-0.069 (0.050)	-0.140*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.040*** (0.599)	-2.716** (1.083)	-3.305*** (0.670)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C1. Effect of Treatment on BMI, additional control for activity sector**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.075 (0.320)	0.171** (0.086)	0.100 (0.819)
(Treated)*(1999-2000)	0.001 (0.214)	0.069 (0.061)	-0.095 (0.442)
(Treated)*(after 2002)	-0.584 (0.705)	-1.336** (0.580)	0.094 (1.002)
Female	-2.297*** (0.104)	-2.268*** (0.154)	-2.153*** (0.133)
Age	1.149*** (0.166)	1.116*** (0.304)	1.201*** (0.223)
Age <sup>2</sup>	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.277)	-1.088*** (0.404)
Baccalaureate	-0.985*** (0.271)	-1.028*** (0.325)	-0.950** (0.412)
Professional competence	-0.837*** (0.242)	-0.722*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.081*** (0.263)	-0.977*** (0.299)	-1.155*** (0.422)
Undergraduate degree	-1.219*** (0.303)	-1.315*** (0.314)	-1.122** (0.500)
Other academic degree	-1.395*** (0.246)	-1.284*** (0.261)	-1.392*** (0.397)
Other diploma	-1.175*** (0.317)	-0.758** (0.334)	-1.474*** (0.468)
Distribution	0.033 (0.071)	0.046 (0.120)	0.031 (0.092)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-4.380 (4.428)	-3.936 (8.091)	-5.484 (5.966)
R <sup>2</sup>	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C2. Effect of Treatment on Obesity, additional control for activity sector**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.007 (0.016)	-0.016 (0.013)	0.043 (0.047)
(Treated)*(1999-2000)	-0.010 (0.008)	-0.015 (0.014)	-0.004 (0.036)
(Treated)*(after 2002)	-0.056 (0.037)	-0.194*** (0.038)	0.057 (0.056)
Female	-0.031*** (0.008)	-0.036*** (0.011)	-0.021** (0.010)
Age	0.031** (0.013)	0.025 (0.024)	0.035** (0.015)
Age <sup>2</sup>	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.061*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.067*** (0.018)	-0.073*** (0.024)	-0.059* (0.032)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.067** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.099*** (0.028)	-0.068** (0.034)
Other academic degree	-0.087*** (0.017)	-0.106*** (0.024)	-0.063** (0.028)
Other diploma	-0.089*** (0.023)	-0.059* (0.032)	-0.108*** (0.037)
Distribution	0.005 (0.005)	0.003 (0.009)	0.007 (0.007)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.694** (0.329)	-0.607 (0.615)	-0.783* (0.402)
R <sup>2</sup>	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C3. Effect of Treatment on Overweight, additional control for activity sector**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.023* (0.014)	0.078*** (0.019)	-0.028 (0.045)
(Treated)*(1999-2000)	0.003 (0.029)	0.013 (0.020)	-0.012 (0.048)
(Treated)*(after 2002)	-0.040 (0.068)	-0.054 (0.054)	-0.023 (0.100)
Female	-0.323*** (0.011)	-0.308*** (0.020)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.123*** (0.038)
Baccalaureate	-0.102*** (0.025)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.072*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.114*** (0.032)	-0.118*** (0.036)	-0.114** (0.051)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.169*** (0.038)
Other diploma	-0.108** (0.042)	-0.069 (0.049)	-0.140*** (0.051)
Distribution	-0.003 (0.010)	0.000 (0.015)	-0.003 (0.013)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-3.039*** (0.598)	-2.717** (1.086)	-3.302*** (0.667)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C4. Effect of Treatment on BMI, additional controls for spousal employment status and household income**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.190 (0.331)	0.200* (0.105)	0.321 (0.811)
(Treated)*(1999-2000)	-0.023 (0.193)	0.093 (0.080)	-0.228 (0.395)
(Treated)*(after 2002)	-0.616 (0.860)	-1.403* (0.746)	0.142 (1.030)
Female	-2.133*** (0.120)	-2.134*** (0.169)	-1.992*** (0.148)
Age	1.207*** (0.197)	1.126*** (0.320)	1.280*** (0.222)
Age <sup>2</sup>	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.122*** (0.288)	-0.979*** (0.266)	-1.297** (0.525)
Baccalaureate	-0.892*** (0.308)	-0.869*** (0.326)	-0.992* (0.548)
Professional competence	-0.793*** (0.263)	-0.622** (0.259)	-1.075** (0.525)
Vocational certificate	-1.071*** (0.276)	-0.861*** (0.277)	-1.331** (0.531)
Undergraduate degree	-1.077*** (0.322)	-1.163*** (0.303)	-1.084* (0.608)
Other academic degree	-1.316*** (0.256)	-1.148*** (0.256)	-1.461*** (0.463)
Other diploma	-1.103*** (0.327)	-0.636* (0.329)	-1.557*** (0.558)
Middle income	-0.145 (0.116)	-0.105 (0.127)	-0.160 (0.196)
High income	-0.456*** (0.135)	-0.333** (0.157)	-0.527*** (0.200)
Spouse works	-0.267*** (0.063)	-0.244*** (0.092)	-0.278*** (0.090)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-5.990 (5.281)	-3.785 (8.531)	-7.909 (6.136)
R <sup>2</sup>	0.12	0.09	0.13
N	41,449	20,173	21,276

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C5. Effect of Treatment on Obesity, additional controls for spousal employment status and household income**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.016 (0.010)	-0.010 (0.025)	0.056 (0.055)
(Treated)*(1999-2000)	-0.007 (0.006)	-0.008 (0.023)	-0.007 (0.023)
(Treated)*(after 2002)	-0.071* (0.041)	-0.213*** (0.024)	0.054 (0.050)
Female	-0.025** (0.010)	-0.030** (0.013)	-0.018* (0.011)
Age	0.041** (0.015)	0.026 (0.027)	0.050*** (0.016)
Age <sup>2</sup>	-0.000** (0.000)	-0.000 (0.000)	-0.000*** (0.000)
Junior secondary certificate	-0.098*** (0.021)	-0.095*** (0.026)	-0.099*** (0.037)
Baccalaureate	-0.065*** (0.021)	-0.072*** (0.024)	-0.062 (0.039)
Professional competence	-0.071*** (0.020)	-0.067** (0.026)	-0.079** (0.038)
Vocational certificate	-0.089*** (0.018)	-0.085*** (0.026)	-0.093** (0.037)
Undergraduate degree	-0.080*** (0.022)	-0.086*** (0.029)	-0.080** (0.039)
Other academic degree	-0.089*** (0.020)	-0.099*** (0.029)	-0.084** (0.032)
Other diploma	-0.085*** (0.026)	-0.045 (0.036)	-0.124*** (0.041)
Middle income	-0.020** (0.009)	-0.026** (0.012)	-0.008 (0.013)
High income	-0.040*** (0.010)	-0.033** (0.014)	-0.036** (0.015)
Spouse works	-0.018*** (0.006)	-0.017** (0.008)	-0.017** (0.007)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-0.930** (0.395)	-0.587 (0.699)	-1.126*** (0.427)
R <sup>2</sup>	0.02	0.03	0.03
N	41,449	20,173	21,276

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table C6. Effect of Treatment on Overweight, additional controls for spousal employment status and household income**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.026 (0.019)	0.082*** (0.022)	-0.030 (0.042)
(Treated)*(1999-2000)	-0.006 (0.032)	0.013 (0.029)	-0.038 (0.046)
(Treated)*(after 2002)	-0.032 (0.080)	-0.057 (0.073)	-0.005 (0.103)
Female	-0.311 *** (0.013)	-0.297*** (0.022)	-0.295*** (0.016)
Age	0.142*** (0.028)	0.109** (0.046)	0.162*** (0.029)
Age <sup>2</sup>	-0.001 *** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.100*** (0.032)	-0.069** (0.034)	-0.143*** (0.053)
Baccalaureate	-0.098*** (0.031)	-0.095** (0.041)	-0.121** (0.050)
Professional competence	-0.069** (0.027)	-0.038 (0.032)	-0.117** (0.051)
Vocational certificate	-0.097*** (0.028)	-0.059* (0.033)	-0.152*** (0.050)
Undergraduate degree	-0.107*** (0.035)	-0.120*** (0.040)	-0.110* (0.063)
Other academic degree	-0.138*** (0.029)	-0.105*** (0.035)	-0.173*** (0.047)
Other diploma	-0.110** (0.046)	-0.071 (0.051)	-0.152** (0.065)
Middle income	-0.005 (0.016)	0.011 (0.017)	-0.027 (0.025)
High income	-0.030* (0.017)	-0.009 (0.018)	-0.053** (0.025)
Spouse works	-0.028*** (0.009)	-0.025** (0.013)	-0.031** (0.013)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-3.097*** (0.748)	-2.237* (1.234)	-3.603*** (0.782)
R <sup>2</sup>	0.11	0.07	0.12
N	41,449	20,173	21,276

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.



**Table D1. Effect of Treatment on BMI by area of activity**

	Distribution			Production		
	All	Blue collars	White collars	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.279 (0.392)	0.127 (0.161)	-0.915 (0.713)	0.433 (0.368)	0.321*** (0.116)	0.616 (0.833)
(Treated)*(1999-2000)	-0.133 (0.372)	0.198 (0.158)	-0.654 (0.540)	0.200 (0.179)	0.117 (0.075)	0.304 (0.394)
(Treated)*(2003-2006)	-1.842** (0.792)	-2.978*** (0.436)	-0.661 (1.281)	0.348 (0.537)	0.095 (0.376)	0.612 (0.865)
Female	-2.257*** (0.125)	-2.056*** (0.221)	-2.133*** (0.143)	-2.348*** (0.140)	-2.498*** (0.153)	-2.188*** (0.207)
Age	1.167*** (0.250)	0.945* (0.479)	1.205*** (0.315)	1.177*** (0.204)	1.199*** (0.346)	1.191*** (0.285)
Age <sup>2</sup>	-0.011*** (0.002)	-0.008* (0.005)	-0.011*** (0.003)	-0.011*** (0.002)	-0.011*** (0.003)	-0.011*** (0.003)
Junior sec certificate	-1.051*** (0.282)	-0.792** (0.336)	-1.282** (0.493)	-1.139*** (0.404)	-1.556*** (0.422)	-0.763 (0.611)
Baccalaureate	-0.849*** (0.302)	-0.709* (0.381)	-1.004* (0.527)	-1.119** (0.454)	-1.397*** (0.528)	-0.817 (0.653)
Prof competence	-0.775*** (0.264)	-0.630* (0.319)	-1.035** (0.520)	-0.924** (0.396)	-0.840* (0.424)	-1.010* (0.587)
Vocational certificate	-0.905*** (0.268)	-0.780** (0.335)	-1.051** (0.517)	-1.309*** (0.419)	-1.242*** (0.454)	-1.269** (0.600)
Undergraduate degree	-0.954*** (0.321)	-1.057** (0.411)	-0.943* (0.546)	-1.469*** (0.436)	-1.666*** (0.417)	-1.265* (0.730)
Other academic degree	-1.174*** (0.298)	-1.037*** (0.374)	-1.225** (0.509)	-1.560*** (0.402)	-1.527*** (0.443)	-1.415** (0.589)
Other diploma	-0.785* (0.452)	-0.194 (0.490)	-1.181* (0.634)	-1.509*** (0.369)	-1.215*** (0.406)	-1.643** (0.639)
Constant	-4.796 (6.565)	0.061 (12.484)	-5.350 (8.281)	-5.038 (5.474)	-5.273 (9.398)	-5.541 (7.723)
R <sup>2</sup>	0.12	0.09	0.14	0.13	0.16	0.12
N	25,471	11,889	13,582	24,359	11,408	12,951

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table D2. Effect of Treatment on Overweight by area of activity**

	Distribution			Production		
	All	Blue collars	White collars	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.009 (0.021)	0.088*** (0.027)	-0.194*** (0.056)	0.063** (0.026)	0.090*** (0.025)	0.045 (0.037)
(Treated)*(1999-2000)	-0.017 (0.060)	0.018 (0.020)	-0.071 (0.109)	0.029 (0.023)	0.022 (0.028)	0.027 (0.018)
(Treated)*(2003-2006)	-0.152 (0.109)	-0.165*** (0.059)	-0.117 (0.184)	0.052 (0.048)	0.051 (0.052)	0.035 (0.054)
Female	-0.319*** (0.015)	-0.282*** (0.029)	-0.307*** (0.019)	-0.329*** (0.014)	-0.338*** (0.027)	-0.316*** (0.017)
Age	0.158*** (0.029)	0.167*** (0.059)	0.146*** (0.034)	0.126*** (0.031)	0.086* (0.048)	0.153*** (0.038)
Age <sup>2</sup>	-0.001*** (0.000)	-0.002*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001* (0.000)	-0.001*** (0.000)
Junior sec certificate	-0.069** (0.030)	-0.027 (0.042)	-0.110** (0.044)	-0.138*** (0.040)	-0.143*** (0.042)	-0.145** (0.064)
Baccalaureate	-0.076*** (0.025)	-0.048 (0.046)	-0.100** (0.042)	-0.131*** (0.044)	-0.132** (0.061)	-0.143** (0.067)
Prof competence	-0.057** (0.025)	-0.037 (0.040)	-0.090** (0.044)	-0.092** (0.041)	-0.047 (0.044)	-0.148** (0.061)
Vocational certificate	-0.059** (0.024)	-0.042 (0.039)	-0.082* (0.044)	-0.137*** (0.044)	-0.080* (0.046)	-0.198*** (0.066)
Undergraduate degree	-0.084** (0.033)	-0.092* (0.052)	-0.082 (0.052)	-0.146*** (0.050)	-0.147*** (0.043)	-0.155* (0.086)
Other academic degree	-0.108*** (0.029)	-0.069 (0.048)	-0.131*** (0.048)	-0.181*** (0.040)	-0.152*** (0.049)	-0.208*** (0.063)
Other diploma	-0.035 (0.060)	0.033 (0.069)	-0.087 (0.070)	-0.174*** (0.053)	-0.154*** (0.058)	-0.192** (0.078)

Constant	-3.542*** (0.748)	-3.925** (1.537)	-3.194*** (0.873)	-2.661*** (0.833)	-1.561 (1.318)	-3.354*** (1.022)
R <sup>2</sup>	0.12	0.08	0.13	0.12	0.11	0.13
N	25,471	11,889	13,582	24,359	11,408	12,951

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Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E1. Effect of Treatment on BMI, income interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.050 (0.341)	0.076 (0.166)	-0.079 (0.897)
(Treated)*(1999-2000)	-0.078 (0.222)	0.031 (0.094)	-0.187 (0.497)
(Treated)*(2003-2006)	-0.659 (0.740)	-1.383** (0.636)	-0.005 (1.076)
(Treated)*(2001-2002)*middle income	0.108 (0.116)	0.194 (0.183)	-0.008 (0.186)
(Treated)*(2001-2002)*high income	0.137 (0.113)	0.043 (0.223)	0.194 (0.169)
(Treated)*(1999-2000)*middle income	0.025 (0.072)	0.077 (0.111)	-0.085 (0.134)
(Treated)*(1999-2000)* high income	0.107 (0.078)	0.055 (0.122)	0.083 (0.126)
(Treated)*(2003-2006)*middle income	0.068 (0.225)	0.259 (0.351)	-0.127 (0.303)
(Treated)*(2003-2006)*high income	0.058 (0.189)	0.021 (0.381)	0.048 (0.288)
Middle income	-0.105 (0.084)	-0.193* (0.109)	0.110 (0.157)
High income	-0.414*** (0.104)	-0.381*** (0.139)	-0.329** (0.161)
Female	-2.274*** (0.106)	-2.252*** (0.153)	-2.142*** (0.142)
Age	1.119*** (0.176)	1.028*** (0.307)	1.214*** (0.235)
Age <sup>2</sup>	-0.010*** (0.002)	-0.009*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.085*** (0.267)	-1.070*** (0.291)	-1.084** (0.418)
Baccalaureate	-0.927*** (0.280)	-0.992*** (0.323)	-0.882** (0.428)
Professional competence	-0.841*** (0.248)	-0.747*** (0.274)	-0.988** (0.436)
Vocational certificate	-1.077*** (0.270)	-0.980*** (0.308)	-1.147** (0.437)
Undergraduate degree	-1.164*** (0.308)	-1.285*** (0.322)	-1.056** (0.510)
Other academic degree	-1.244*** (0.250)	-1.139*** (0.263)	-1.254*** (0.398)
Other diploma	-1.103*** (0.316)	-0.711** (0.333)	-1.395*** (0.472)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-2.814 (4.802)	-1.498 (8.231)	-5.921 (6.479)
R <sup>2</sup>	0.12	0.10	0.12
N	48,873	22,811	26,062

Body Mass Index =  $\text{weight}/(\text{height}^2)$ ; estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table E2. Effect of Treatment on BMI, spousal employment status interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.318 (0.348)	0.179 (0.126)	0.651 (0.845)
(Treated)*(1999-2000)	0.089 (0.214)	0.189* (0.100)	-0.045 (0.434)
(Treated)*(2003-2006)	-0.433 (0.860)	-1.452* (0.745)	0.571 (1.088)
(Treated)*(2001-2002)*spouse works	-0.163* (0.083)	0.008 (0.159)	-0.312** (0.149)
(Treated)*(1999-2000)*spouse works	-0.135** (0.064)	-0.189** (0.093)	-0.103 (0.104)
(Treated)*(2003-2006)*spouse works	-0.279** (0.118)	-0.042 (0.244)	-0.412** (0.177)
Spouse works	-0.203*** (0.067)	-0.233** (0.106)	-0.136 (0.098)
Female	-2.189*** (0.113)	-2.177*** (0.170)	-2.023*** (0.136)
Age	1.272*** (0.189)	1.172*** (0.324)	1.356*** (0.219)
Age <sup>2</sup>	-0.012*** (0.002)	-0.011*** (0.003)	-0.012*** (0.002)
Junior secondary certificate	-1.131*** (0.277)	-0.949*** (0.256)	-1.344*** (0.502)
Baccalaureate	-0.970*** (0.302)	-0.913*** (0.328)	-1.100** (0.536)
Professional competence	-0.803*** (0.258)	-0.588** (0.250)	-1.161** (0.510)
Vocational certificate	-1.094*** (0.271)	-0.850*** (0.271)	-1.391*** (0.516)
Undergraduate degree	-1.168*** (0.319)	-1.185*** (0.298)	-1.228** (0.602)
Other academic degree	-1.512*** (0.256)	-1.279*** (0.251)	-1.692*** (0.479)
Other diploma	-1.211*** (0.327)	-0.677** (0.329)	-1.710*** (0.557)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-7.885 (5.091)	-5.031 (8.621)	-10.440* (6.202)
R <sup>2</sup>	0.12	0.09	0.12
N	42,250	20,585	21,665

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.



**Table E3. Effect of Treatment on Overweight, income interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.023 (0.019)	0.072*** (0.026)	-0.031 (0.052)
(Treated)*(1999-2000)	0.004 (0.032)	0.009 (0.023)	-0.002 (0.054)
(Treated)*(2003-2006)	-0.048 (0.073)	-0.078 (0.062)	-0.028 (0.107)
(Treated)*(2001-2002)*middle income	-0.003 (0.018)	0.013 (0.029)	-0.015 (0.023)
(Treated)*(2001-2002)*high income	0.001 (0.017)	0.010 (0.029)	-0.000 (0.023)
(Treated)*(1999-2000)*middle income	-0.010 (0.012)	0.005 (0.016)	-0.032** (0.016)
(Treated)*(1999-2000)* high income	0.001 (0.014)	0.003 (0.020)	-0.009 (0.017)
(Treated)*(2003-2006)*middle income	-0.004 (0.026)	0.042 (0.041)	-0.027 (0.030)
(Treated)*(2003-2006)*high income	0.018 (0.025)	0.033 (0.038)	0.013 (0.031)
Middle income	-0.001 (0.011)	-0.003 (0.014)	0.007 (0.018)
High income	-0.027* (0.014)	-0.022 (0.019)	-0.027 (0.018)
Female	-0.322*** (0.011)	-0.306*** (0.020)	-0.310*** (0.013)
Age	0.138*** (0.023)	0.116*** (0.041)	0.153*** (0.027)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.029)	-0.075** (0.033)	-0.126*** (0.041)
Baccalaureate	-0.100*** (0.028)	-0.094** (0.039)	-0.115*** (0.038)
Professional competence	-0.072*** (0.026)	-0.043 (0.032)	-0.110*** (0.040)
Vocational certificate	-0.094*** (0.028)	-0.062* (0.034)	-0.131*** (0.041)
Undergraduate degree	-0.110*** (0.033)	-0.118*** (0.038)	-0.111** (0.053)
Other academic degree	-0.136*** (0.027)	-0.103*** (0.034)	-0.162*** (0.040)
Other diploma	-0.104** (0.043)	-0.068 (0.049)	-0.136** (0.053)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-2.922***	-2.541**	-3.319***



	(0.629)	(1.126)	(0.733)
R <sup>2</sup>	0.11	0.08	0.12
N	48,873	22,811	26,062

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Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E4. Effect of Treatment on Overweight, spousal employment status interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.041* (0.022)	0.082*** (0.023)	0.001 (0.046)
(Treated)*(1999-2000)	0.006 (0.036)	0.028 (0.030)	-0.025 (0.050)
(Treated)*(2003-2006)	-0.009 (0.082)	-0.066 (0.070)	0.041 (0.109)
(Treated)*(2001-2002)*spouse works	-0.024* (0.012)	-0.009 (0.022)	-0.034 (0.023)
(Treated)*(1999-2000)*spouse works	-0.015 (0.010)	-0.025** (0.012)	-0.005 (0.017)
(Treated)*(2003-2006)*spouse works	-0.034** (0.016)	0.007 (0.032)	-0.054** (0.026)
Spouse works	-0.019** (0.009)	-0.020 (0.015)	-0.015 (0.015)
Female	-0.314*** (0.013)	-0.299*** (0.022)	-0.297*** (0.016)
Age	0.150*** (0.028)	0.114** (0.046)	0.172*** (0.030)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001** (0.000)	-0.002*** (0.000)
Junior secondary certificate	-0.103*** (0.030)	-0.069** (0.034)	-0.150*** (0.049)
Baccalaureate	-0.105*** (0.030)	-0.095** (0.042)	-0.132*** (0.048)
Professional competence	-0.072*** (0.026)	-0.038 (0.032)	-0.127*** (0.047)
Vocational certificate	-0.098*** (0.027)	-0.056* (0.032)	-0.158*** (0.048)
Undergraduate degree	-0.113*** (0.034)	-0.116*** (0.037)	-0.124** (0.062)
Other academic degree	-0.152*** (0.027)	-0.110*** (0.033)	-0.192*** (0.046)
Other diploma	-0.117** (0.045)	-0.070 (0.050)	-0.166*** (0.061)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-3.328*** (0.753)	-2.423* (1.226)	-3.865*** (0.812)
R <sup>2</sup>	0.10	0.07	0.12
N	42,250	20,585	21,665

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E5. Effect of Treatment on BMI, gender interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.095 (0.321)	0.156* (0.086)	0.165 (0.807)
(Treated)*(1999-2000)	0.006 (0.215)	0.062 (0.069)	-0.033 (0.435)
(Treated)*(2003-2006)	-0.587 (0.711)	-1.399** (0.604)	0.175 (0.992)
(Treated)*(2001-2002)*female	-0.047 (0.095)	0.108 (0.255)	-0.110 (0.133)
(Treated)*(1999-2000)*female	-0.009 (0.060)	0.058 (0.121)	-0.124 (0.084)
(Treated)*(2003-2006)*female	0.007 (0.157)	0.212 (0.320)	-0.108 (0.179)
Female	-2.286*** (0.096)	-2.353*** (0.202)	-2.078*** (0.123)
Age	1.151*** (0.201)	1.016*** (0.383)	1.250*** (0.263)
Age <sup>2</sup>	-0.011*** (0.002)	-0.009** (0.004)	-0.011*** (0.003)
Junior secondary certificate	-1.078*** (0.259)	-1.050*** (0.277)	-1.088*** (0.405)
Baccalaureate	-0.986*** (0.274)	-1.034*** (0.324)	-0.948** (0.416)
Professional competence	-0.836*** (0.242)	-0.720*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.082*** (0.264)	-0.979*** (0.300)	-1.155*** (0.425)
Undergraduate degree	-1.223*** (0.305)	-1.323*** (0.314)	-1.124** (0.503)
Other academic degree	-1.401*** (0.247)	-1.291*** (0.259)	-1.398*** (0.402)
Other diploma	-1.178*** (0.318)	-0.765** (0.335)	-1.476*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.423 (5.385)	-1.300 (10.214)	-6.779 (7.062)
R <sup>2</sup>	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E6. Effect of Treatment on Overweight, gender interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.020 (0.015)	0.076*** (0.020)	-0.036 (0.044)
(Treated)*(1999-2000)	0.005 (0.029)	0.012 (0.021)	-0.005 (0.047)
(Treated)*(2003-2006)	-0.043 (0.069)	-0.064 (0.056)	-0.020 (0.099)
(Treated)*(2001-2002)*female	0.007 (0.011)	0.017 (0.026)	0.014 (0.015)
(Treated)*(1999-2000)*female	-0.005 (0.009)	0.008 (0.014)	-0.016 (0.011)
(Treated)*(2003-2006)*female	0.007 (0.022)	0.036 (0.037)	-0.005 (0.024)
Female	-0.325*** (0.013)	-0.321*** (0.027)	-0.308*** (0.014)
Age	0.135*** (0.028)	0.107** (0.047)	0.150*** (0.032)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.124*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.043 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.052)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.169*** (0.039)
Other diploma	-0.108** (0.042)	-0.069 (0.050)	-0.140*** (0.052)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-2.924*** (0.755)	-2.256* (1.258)	-3.287*** (0.838)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E7. Effect of Treatment on BMI, age interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.137 (0.341)	0.539* (0.318)	0.087 (0.823)
(Treated)*(1999-2000)	-0.117 (0.227)	-0.170 (0.169)	-0.210 (0.455)
(Treated)*(2003-2006)	-0.232 (0.756)	-1.133 (0.819)	0.474 (1.058)
(Treated)*(2001-2002)*(age>=50)	-0.044 (0.146)	-0.368 (0.326)	0.023 (0.196)
(Treated)*(1999-2000)*(age>=50)	0.151 (0.100)	0.277 (0.170)	0.136 (0.138)
(Treated)*(2003-2006)*(age>=50)	-0.354 (0.290)	-0.182 (0.575)	-0.406 (0.366)
Female	-2.358*** (0.098)	-2.361*** (0.148)	-2.205*** (0.123)
Age>=50	0.352*** (0.060)	0.296*** (0.099)	0.431*** (0.083)
Junior secondary certificate	-1.091*** (0.259)	-1.061*** (0.276)	-1.109*** (0.405)
Baccalaureate	-1.032*** (0.272)	-1.064*** (0.320)	-1.013** (0.412)
Professional competence	-0.854*** (0.242)	-0.736*** (0.262)	-1.041** (0.424)
Vocational certificate	-1.098*** (0.264)	-0.991*** (0.299)	-1.181*** (0.423)
Undergraduate degree	-1.253*** (0.306)	-1.350*** (0.313)	-1.166** (0.502)
Other academic degree	-1.443*** (0.245)	-1.322*** (0.261)	-1.451*** (0.398)
Other diploma	-1.208*** (0.318)	-0.787** (0.334)	-1.522*** (0.471)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	26.581*** (0.238)	26.238*** (0.275)	26.931*** (0.387)
R <sup>2</sup>	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Age = 1 if age ≥ 50 years and 0 otherwise. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E8. Effect of Treatment on overweight, age interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.049** (0.020)	0.119*** (0.031)	-0.003 (0.047)
(Treated)*(1999-2000)	-0.005 (0.032)	0.009 (0.029)	-0.026 (0.050)
(Treated)*(2003-2006)	-0.006 (0.075)	0.018 (0.104)	-0.004 (0.107)
(Treated)*(2001-2002)*(age≥50)	-0.026 (0.018)	-0.040 (0.028)	-0.030 (0.024)
(Treated)*(1999-2000)*(age≥50)	0.011 (0.014)	0.007 (0.024)	0.016 (0.017)
(Treated)*(2003-2006)*(age≥50)	-0.033 (0.036)	-0.069 (0.089)	-0.021 (0.045)
Female	-0.330*** (0.010)	-0.319*** (0.019)	-0.315*** (0.011)
Age≥50	0.034*** (0.009)	0.031** (0.015)	0.042*** (0.011)
Junior secondary certificate	-0.099*** (0.028)	-0.077** (0.032)	-0.124*** (0.039)
Baccalaureate	-0.106*** (0.025)	-0.094** (0.039)	-0.124*** (0.036)
Professional competence	-0.073*** (0.024)	-0.045 (0.030)	-0.113*** (0.037)
Vocational certificate	-0.094*** (0.027)	-0.060* (0.033)	-0.131*** (0.040)
Undergraduate degree	-0.116*** (0.032)	-0.121*** (0.036)	-0.117** (0.051)
Other academic degree	-0.151*** (0.025)	-0.115*** (0.032)	-0.175*** (0.038)
Other diploma	-0.111*** (0.042)	-0.072 (0.049)	-0.145*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	0.666*** (0.025)	0.624*** (0.033)	0.706*** (0.037)
R <sup>2</sup>	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Age = 1 if age≥50 years and 0 otherwise. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E9. Effect of Treatment on BMI, children interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.061 (0.372)	0.157 (0.228)	0.104 (0.819)
(Treated)*(1999-2000)	-0.006 (0.354)	0.254 (0.167)	-0.411 (0.686)
(Treated)*(2003-2006)	-0.527 (0.773)	-0.994 (0.902)	0.049 (0.917)
(Treated)*(2001-2002)*haschild	0.248** (0.120)	0.165 (0.171)	0.287 (0.191)
(Treated)*(1999-2000)*haschild	0.235*** (0.080)	0.182* (0.103)	0.301* (0.152)
(Treated)*(2003-2006)*haschild	0.208 (0.188)	-0.006 (0.283)	0.305 (0.246)
Haschild	-0.214*** (0.080)	-0.164* (0.090)	-0.253* (0.142)
Female	-2.286*** (0.096)	-2.353*** (0.202)	-2.078*** (0.123)
Age	1.145*** (0.209)	1.178*** (0.363)	1.157*** (0.269)
Age <sup>2</sup>	-0.010*** (0.002)	-0.011*** (0.003)	-0.011*** (0.003)
Junior secondary certificate	-1.238*** (0.286)	-1.109*** (0.294)	-1.364** (0.538)
Baccalaureate	-1.067*** (0.310)	-1.013*** (0.357)	-1.145** (0.548)
Professional competence	-0.923*** (0.284)	-0.725** (0.301)	-1.192** (0.578)
Vocational certificate	-1.149*** (0.301)	-0.969*** (0.326)	-1.312** (0.577)
Undergraduate degree	-1.314*** (0.334)	-1.305*** (0.330)	-1.348** (0.647)
Other academic degree	-1.481*** (0.281)	-1.277*** (0.283)	-1.585*** (0.547)
Other diploma	-1.157*** (0.337)	-0.661* (0.369)	-1.611*** (0.580)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.183 (5.613)	-5.342 (9.546)	-4.219 (7.382)
R <sup>2</sup>	0.12	0.10	0.12
N	36,249	17,207	19,042

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table E10. Effect of Treatment on Overweight, children interactions**

	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.005 (0.027)	0.051 (0.035)	-0.068 (0.050)
(Treated)*(1999-2000)	-0.002 (0.042)	0.033 (0.028)	-0.065 (0.073)
(Treated)*(2003-2006)	-0.019 (0.063)	-0.001 (0.075)	-0.036 (0.108)
(Treated)*(01-02)*haschild	0.034* (0.020)	0.044* (0.024)	0.024 (0.031)
(Treated)*(99-00)*haschild	0.018 (0.015)	0.023 (0.019)	0.014 (0.021)
(Treated)*(03-06)*haschild	0.032 (0.026)	0.037 (0.033)	0.026 (0.035)
Haschild	-0.037*** (0.012)	-0.040** (0.016)	-0.032* (0.019)
Female	-0.315*** (0.012)	-0.306*** (0.022)	-0.297*** (0.014)
Age	0.137*** (0.031)	0.109** (0.047)	0.151*** (0.036)
Age <sup>2</sup>	-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.107*** (0.027)	-0.086** (0.035)	-0.130*** (0.041)
Baccalaureate	-0.095*** (0.027)	-0.091** (0.044)	-0.104** (0.042)
Professional competence	-0.072*** (0.024)	-0.045 (0.035)	-0.109** (0.045)
Vocational certificate	-0.091*** (0.026)	-0.062* (0.036)	-0.122** (0.048)
Undergraduate degree	-0.111*** (0.034)	-0.118*** (0.042)	-0.108* (0.063)
Other academic degree	-0.141*** (0.026)	-0.112*** (0.040)	-0.158*** (0.047)
Other diploma	-0.100** (0.043)	-0.061 (0.055)	-0.130** (0.056)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-2.943*** (0.820)	-2.233* (1.271)	-3.350*** (0.945)
R <sup>2</sup>	0.11	0.08	0.12
N	36,249	17,207	19,042

Body Mass Index = weight/(height<sup>2</sup>); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.



**Table F1. Effect of Treatment on Self-assessed Health (very good=1, very poor=8)**

	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.089* (0.047)	-0.104 (0.090)	-0.048 (0.038)
(Treated)*(1999-2000)	-0.018 (0.049)	-0.026 (0.039)	-0.004 (0.078)
(Treated)*(2003-2006)	0.201 (0.141)	0.247 (0.189)	0.182 (0.149)
Female	0.224*** (0.027)	0.176*** (0.057)	0.253*** (0.034)
Age	-0.015 (0.071)	-0.061 (0.132)	0.006 (0.078)
Age <sup>2</sup>	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
Junior secondary certificate	-0.038 (0.089)	-0.085 (0.103)	0.016 (0.110)
Baccalaureate	-0.079 (0.089)	-0.057 (0.102)	-0.073 (0.112)
Professional competence	-0.081 (0.079)	-0.099 (0.090)	-0.063 (0.105)
Vocational certificate	-0.101 (0.088)	-0.157 (0.097)	-0.030 (0.117)
Undergraduate degree	-0.153 (0.096)	-0.217* (0.113)	-0.078 (0.117)
Other academic degree	-0.222*** (0.082)	-0.313*** (0.097)	-0.147 (0.112)
Other diploma	-0.264*** (0.099)	-0.183 (0.134)	-0.320** (0.127)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	3.519* (1.867)	4.849 (3.470)	2.958 (2.046)
R <sup>2</sup>	0.02	0.03	0.03
N	49,641	23,214	26,427

Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table F2. Effect of Treatment on Self-assessed Health (good=1, suboptimum=0)**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.014 (0.015)	0.027 (0.017)	-0.009 (0.012)
(Treated)*(1999-2000)	0.014 (0.021)	0.009 (0.014)	0.021 (0.032)
(Treated)*(after 2002)	-0.026 (0.050)	-0.058 (0.058)	-0.006 (0.067)
Female	-0.050*** (0.008)	-0.044*** (0.017)	-0.055*** (0.009)
Age	-0.004 (0.017)	-0.009 (0.036)	-0.002 (0.019)
Age <sup>2</sup>	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Junior secondary certificate	0.036* (0.020)	0.039** (0.019)	0.029 (0.029)
Baccalaureate	0.040** (0.019)	0.032 (0.020)	0.041 (0.027)
Professional competence	0.036** (0.017)	0.037** (0.018)	0.034 (0.027)
Vocational certificate	0.044** (0.018)	0.053*** (0.019)	0.031 (0.028)
Undergraduate degree	0.046** (0.019)	0.062*** (0.019)	0.028 (0.028)
Other academic degree	0.060*** (0.017)	0.067*** (0.019)	0.050* (0.028)
Other diploma	0.062*** (0.018)	0.063** (0.026)	0.059** (0.026)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
N	49,619	23,209	26,401

Only respondents who worked during reference period. Probit model (marginal effects shown), standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.



**Table F3. Effect of Treatment on Smoking (yes=1, no=0)**

	All	Blue collars	White collars
(Treated)*(2001-2002)	-0.001 (0.015)	-0.005 (0.010)	-0.000 (0.036)
(Treated)*(1999-2000)	0.032*** (0.007)	0.019** (0.008)	0.045** (0.020)
(Treated)*(2003-2006)	-0.041 (0.052)	-0.053 (0.043)	-0.042 (0.055)
Female	-0.029*** (0.008)	-0.006 (0.016)	-0.052*** (0.012)
Age	-0.021 (0.023)	0.001 (0.044)	-0.030 (0.023)
Age <sup>2</sup>	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
Junior secondary certificate	0.045* (0.023)	0.009 (0.024)	0.100** (0.044)
Baccalaureate	0.025 (0.022)	-0.002 (0.027)	0.071 (0.046)
Professional competence	0.022 (0.019)	-0.014 (0.020)	0.085* (0.043)
Vocational certificate	0.031 (0.022)	-0.007 (0.021)	0.089* (0.046)
Undergraduate degree	0.039 (0.031)	-0.006 (0.029)	0.098* (0.054)
Other academic degree	-0.006 (0.020)	-0.052*** (0.018)	0.042 (0.042)
Other diploma	0.002 (0.028)	-0.008 (0.035)	0.026 (0.043)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
N	48,713	22,785	25,841

Only respondents who worked during reference period. Probit model (marginal effects shown), standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.

**Table F4. Effect of Treatment on Cigarettes Smoked for those who Smoke**

	All	Blue collars	White collars
(Treated)*(2001-2002)	0.928 (1.735)	-1.856 (1.574)	1.996 (2.907)
(Treated)*(1999-2000)	0.814 (1.326)	0.880 (0.616)	1.326 (2.286)
(Treated)*(2003-2006)	2.451 (1.674)	10.845*** (2.141)	-0.908 (3.082)
Female	-0.800 (0.706)	-2.367* (1.344)	-0.342 (0.842)
Age	-0.069 (1.167)	-2.664 (3.023)	1.212 (1.264)
Age <sup>2</sup>	0.001 (0.011)	0.024 (0.030)	-0.010 (0.012)
Junior secondary certificate	-0.617 (1.087)	-0.157 (1.399)	-3.290 (2.200)
Baccalaureate	-0.729 (1.289)	0.114 (1.813)	-3.846** (1.775)
Professional competence	-1.254 (1.229)	0.334 (1.520)	-5.064** (2.127)
Vocational certificate	-1.143 (1.191)	-1.386 (1.621)	-3.011 (2.035)
Undergraduate degree	-0.399 (1.525)	-1.363 (1.859)	-2.059 (2.853)
Other academic degree	0.831 (1.494)	3.158 (2.132)	-2.818 (2.100)
Other diploma	-3.430** (1.528)	0.092 (2.019)	-8.359*** (2.363)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	17.673 (30.356)	89.020 (77.067)	-15.736 (33.463)
R <sup>2</sup>	0.06	0.12	0.10
N	6,428	2,954	3,474

Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.