Would you accept this job? An evaluation of the decision utility of workers in the for-profit and nonprofit sectors.

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Abstract

In this paper, we intend to evaluate the determinants of the decision utility of workers from the for-profit and nonprofit sectors. In our setting, decision utility is the weight assigned by workers to the expected benefits from job offers. For that purpose, we use the methodology of conjoint analysis that collects experimental data on workers' stated preferences towards hypothetical job offers characterized by ten attributes. Intrinsic motivation of nonprofit workers is investigated by specifically analyzing the influence on decision utility of three of these attributes, namely wages, working time and loyalty from the employer. The results show evidence of motivational differences between the two groups. First, nonprofit workers attain their maximum decision utility at a longer working time, showing superior intrinsic motivation for work. Furthermore, they are ready to abandon a higher percentage of their wage in order to work for another extra hour than for-profit workers as long as the working week is inferior to 33 hours. Finally, our findings show that for-profit workers evaluate more highly job offers with labour contract including explicit clause where higher effort is exchanged for employer's loyalty. In contrast, nonprofit workers do not obtain higher utility from such a deal. We interpret this result as evidence of their intrinsic motivation. As the nature of the implicit goals pursued in the nonprofit sector provides them with high work morale, they do not obtain any gain in utility from an explicit clause of employer's loyalty.

JEL Classification: C91, J28, L31

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I. INTRODUCTION

International Social Survey Programme on work orientations has shown that more than 25% of workers regard as very important job values the fact that their job "allows to help other people" and "is useful to society", a share of the workforce as high as the one valuing "high income" job (see Clark, 2009). This sharp evidence of the meaning of social usefulness of jobs leads to the likely hypothesis that a significant fraction of the workers is not only driven by personal interest when deciding on job offers but also by moral, other-regarding considerations. Different job values should therefore be reflected in the preferences of different types of workers.

Because nonprofit organizations are partly characterized by their goal of producing goods and services that generate social benefits, they should rely on individuals inspired by taking part in such a socially desirable activity. In the terminology of Besley and Ghatak (2005), nonprofit employees would be assimilated to motivated agents defined as "agents who pursue goals because they perceive the intrinsic benefits from doing so". Consequently, nonprofit salaried workers are hypothesized to be more intrinsically motivated in their job than their for-profit counterparts[1].

In order to test this prediction, this paper uses the workers' stated preferences towards hypothetical job offers described by attributes and compares the determinants of the decision utility of jobs between for-profit and nonprofit workers. Following Kahneman et al. (1997), the notion of *decision utility* refers to the weight assigned by individuals to alternatives in a choice context. If nonprofit workers experience higher levels of intrinsic motivation than for-profit counterparts, this should be reflected in their evaluation of job characteristics like effort, pecuniary and non pecuniary rewards. Indeed, this decision utility can be inferred not only from observed actual choices but also from hypothetical decisions in discrete choice experiments. Our methodology in this paper is conjoint analysis that collects data on hypothetical decisions of workers in a simulated choice setting (see McFadden, 1986, for a presentation). To the best of our knowledge, such approach has never been used in order to analyze the motivation of workers.

[1] The original definition of intrinsic motivation given by Deci (1971): 'one is said to be intrinsically motivated to perform an activity when he receives no apparent reward except the activity itself' may not be very useful for work activity except in the case of volunteers. Therefore, in this paper, we adopt a mild version of this definition assuming that salaried workers exhibit intrinsic motivation as long as their utility increases with work effort. Therefore, it is possible to compare how much they are intrinsically motivated between nonprofit and for-profit sectors.

In the literature on the motivation of nonprofit and for-profit employees, another approach based on the workers' stated preferences has also been considered. It consists to estimate the utility function of for-profit and nonprofit employees using reported levels of job satisfaction. Benz (2005) found evidence that nonprofit workers report higher well-being in the workplace than for-profit ones suggesting that they obtain higher intrinsic work benefits. Using data from seven European countries, Lanfranchi and Narcy (2008,a) also find higher job satisfaction in the nonprofit sector mainly coming from intrinsic aspects of the job like superior autonomy and greater interest of the job. Unlike the approach used in our paper, this exercise can be seen as an attempt to measure the differences in *experienced utility* in the for-profit and nonprofit sectors and not the differences in decision utility. The concept of experienced utility at work is linked with the pleasures and pain that are derived from the experience in the job[2].

Contrary to the studies focusing on the workers' stated preferences, the largest strand of the literature on nonprofit workers' motivation is based on their revealed preferences. In fact, the intrinsic motivation of nonprofit workers is identified through the differences in utility from the characteristics of the chosen jobs, particularly focusing on the wage differential between the nonprofit and for-profit sectors. Following a compensating differentials argument, labour donation theory (Preston, 1989) postulates that workers employed in the nonprofit sector would be ready to donate labour in order to be involved in the production of a good or service that they consider as valuable for the society, i.e. to work for a lower hourly wage. Empirical evidence is however mixed. The most recent studies to date have found contradictory results for the United States and Europe. In the US, Leete (2001) concludes that the wage differential is in favour of the nonprofit workers only for certain industries while Ruhm and Borkoski (2003) finds no significant differences in compensation between for-profit and nonprofit organizations. However, the too rare European studies (Mosca et al, 2007, for Italy and Narcy, 2009, for France) conclude to a significant negative nonprofit wage gap.

These previous studies showing that nonprofit workers report higher job satisfaction without a significant evidence of superior pecuniary compensation preclude the hypothesis of a wage rent in their favour. Intrinsic motivation, and job characteristics likely to preserve it,

[2] We do not claim that reported levels of job satisfaction measure accurately the experienced utility of workers. As Kahneman and Krueger (2006) report, numerous experiments have shown that answers about satisfaction levels are retrospective constructions influenced by context, mood and memory. However, as job satisfaction appears as a strong predictor of absenteeism and turnover, comparisons of workers' well-being between sectors make still known how much these are relatively attractive.

could therefore cause the superior well-being for workers who have self selected themselves in nonprofits. In our experimental setting, we propose a novel approach to the question of what workers want, and how this may affect labour market outcomes. A sample of individuals from seven European countries has been asked to declare their preferences by evaluating a number of alternative job offers. The survey proposes descriptions of five hypothetical job offers to workers who are supposed to have lost their previous employment. Each job offer, called a vignette, is characterized by ten specific attributes chosen to describe its quality. The evaluation of the vignettes is then analyzed to bring out the differences in valuables attributes for nonprofit and for-profit employees.

Superior intrinsic motivation of nonprofit workers over for-profit ones may be tested by specifically analyzing the weight of three attributes of the job offers in their decision utility, namely wages, working time and loyalty from the employer. The results show evidence of motivational differences for the two groups.

The number of working hours per week shows a clear inverted-U-pattern, with a maximum at about 28 hours a week for the for-profit workers and about 30.5 hours a week for the nonprofit ones. This evidence is in line with the labour donation hypothesis as nonprofit workers reach their maximum decision utility at a longer working time, showing a higher intrinsic motivation for work. Furthermore, they are ready to abandon a higher percentage of their wage in order to work for an extra supplementary hour than for-profit workers as long as the working week is inferior to 33 hours. Interestingly, above this threshold, they would require a higher wage compensation for any increase in the number of worked hours than their counterparts from the for-profit sector.

Finally, our findings show that for-profit workers evaluate more highly job offers where higher effort is exchanged for employer's loyalty. In contrast, nonprofit workers do not obtain higher utility from such a deal. We interpret this result as evidence of their intrinsic motivation. As the nature of the goals pursued in the nonprofit sector provides them with high work morale, they do not obtain any gain in well-being from a supplementary demonstration of loyalty from their employer.

The rest of the paper is organized as follows. Section 2 will describe the methodology of the conjoint analysis and the characteristics of our experiment. Section 3 will describe our model decision utility and the chosen estimation methods. Section 4 will present and discuss our estimation results. Finally, section 5 offers concluding comments.

II. METHODOLOGY AND EXPERIMENT

1. Conjoint Analysis

Producers are keen to discover the saleability of new products projects. One of their favourite methods of investigation is to face a panel of consumers with a set of versions of a new good only differing by some of their attributes. This method of gathering and treating experimental data, designed by marketing researchers, is called "conjoint analysis" (Green, 1974). Paired comparisons, ranking and cardinal evaluation of proposed alternatives yield information on stated preferences and choice. Empirical treatment of this discrete choice information was formalized by McFadden (1973) and based on the original work of Luce (1959) on individual choice behaviour.

In order to uncover workers preferences with respect to jobs, we use conjoint analysis to design a discrete choice experiment where workers are asked to evaluate hypothetical jobs offers. Such job offers, called vignettes, consist of a set of job characteristics, or attributes in the technical terminology, like wage, working hours or the nature of the employment contract. Therefore, the experiment will allow expose the mapping between inputs and output of labour market choices, namely the relationship between the job attributes and job decision utility by the workers[3].

Such a laboratory experiment has the major advantage to propose to potential job applicants with a much larger set of alternative job offers that can be observed in reality[4]. In spite of its flexibility, conjoint analysis has not been extensively used in economic research in comparison with marketing research. However, it has recently become more and more common in health economics as a tool to evaluate the benefits from health care policies. Within the labour economics field, the applications are rare with two noticeable exceptions: Scott (2001) who elicits the preferences of British General Practitioners for characteristics of their jobs and van Beek et al. (1997) who elicit the employers' preferences with respect to job applicants in the Netherlands.

[3] Previous studies have made use of answers of employees to explicit "value" questions to assess what have been called their values in the job. Clark (1997) and Souza-Poza and Souza-Poza (2000) have analyzed the differences in preferences for specific attributes between male and female workers. Our approach relies on observation of hypothetical choices and is arguably closer to measuring the true decision utility of workers.

[4] To our knowledge, Stern (2004) proposed the only study where the evaluation of preferences towards job characteristics was analyzed using actual job offers received by applicants.

2. Experimental setting

The experimental setting takes place in the framework of a broader survey that was designed in the context of the EPICURUS project to investigate the link between work patterns, labour market experiences and job satisfaction. This new dataset has been collected on line in six European countries, namely Denmark, France, Finland, the Netherlands, Spain and the United Kingdom and by direct interviews in Greece in August and September 2004. The sample includes salaried individuals with low and middle level of education (maximum upper secondary school) from secondary and tertiary sectors whose employment is the main activity (excluding students). Furthermore, the sample was stratified to persons aged 18-65 years. The total number of respondents is 5463 with an unequal distribution between countries for budget restrictions[5]. We further restrict our sample of study excluding civil servants and employees of public firms. Finally, we are left with 3744 useable observations.

The information collected can be summarized in three parts. First, objective information was collected about the individual respondent, his household and his past and current job situation. Second, a large set of both objective and subjective information is available encompassing job characteristics, opinions about the job, and measures of satisfaction with the job and life domains. Third, a large part of the questionnaire was devoted to obtain from the respondents assessments of hypothetical job offers.

Each surveyed worker was exposed to a fictitious situation where he/she was supposed to act as an off-the-job job applicant. The first step of the experiment began with an introductory text describing the scenario or context of the hypothetical choices:

"*Imagine that, for some reason, you had to stop with your current job and had to look for a new one. Imagine that after a short time you get several job offers. We will list these on the following screens. These listed job offers do not differ from your current job except from some points that we specifically mention.*

Can you please evaluate these offers on a scale from 0 to 10, where 0 means the worst possible and 10 the best possible offer? And indicate if they are acceptable?"

In the experimental setting, each respondent has been proposed five vignettes standing for different job offers defined by ten attributes meant to describe the quality of the job. As we were unable to further interview job seekers on the most relevant job characteristics, we referred ourselves with the findings of the job satisfaction literature to carry out the selection of the attributes. Furthermore, the choice of the number of hypothetical job offers together

[5] The number of respondents in each country was respectively 1,011 in Denmark, 331 in Finland, 1,008 in France, 800 in Greece, 1,007 in the Netherlands, 304 in Spain and 1,002 in the United Kingdom.

with the number of attributes is indeed the result of a trade-off between both the accumulation of information on preferences and plausibility of the job offer on the one hand and the complexity of the experimental design and hence the respondent efficiency on the other hand. The number of vignettes has been limited to five in order to reduce the respondents' decision costs[6].

An example of a job offer or vignette is given in Table 1 below[7].

Table 1: Example of a vignette proposed to individual respondents

Net hourly wage rate	20% more per hour than your current wage	More
Type of Contract	One-year contract with a high probability of continuation with a permanent contract	More
Weekly work hours	30 hours per week	More
Starting/ending times	The work starts at the usual time. You can however choose on which days to work.	More
Training opportunities	The employer will offer you a 1 month training program in the course of the year.	More
Work organization	The job involves working in a varying team	More
Control over own work	No one controls your work.	More
Work intensity	The job is fairly demanding, which means that sometimes you may have to work at high speed.	More
Time of retirement and Labour disability	This company has no early retirement plans.	More
Loyalty and effort	Same working conditions as in other firms. Loyalty from both sides. Shirking and low performance work is impossible.	More
Hold the mouse over "More" to gain additional information		

Each vignette was proposed on a separate screen of an Internet questionnaire. At the bottom of each screen, the respondent was then required to evaluate the vignette on a 0 to 10 cardinal scale. The average evaluation of vignettes in the sample is 4.15. Then, the respondent was asked if he would accept this offer. In order to allow the respondent to reconsider his evaluation, he was allowed to go back and forth on the five screens displaying the five vignettes and modify his answers. This is essentially similar to the recall hypothesis in the job search theory.

The complete wording of the levels chosen for the ten representative attributes, together with the descriptive statistics of the sample of vignettes are given in Table 2 below. The

[6] Considering that vignettes were proposed to the respondents following their answers to the first two parts of a large questionnaire, we thought that a higher number of job offers would be too difficult to evaluate properly. The complete questionnaire, survey plus experiment, was designed not to require more than half an hour to be filled in.

[7] In supplement to the wording of the proposed attributes, respondents were given access to supplementary information about their detailed meaning while clicking on an information window.

details of the attributes are the following: the net hourly wage rate expressed as a percentage change of the current wage earned by the worker; six different types of contract from the most to the least secure employment relationship; the number of weekly working hours restricted to values between 20 and 50 hours; working times more or less flexible and under the worker's control; training opportunities in the course of the year varying from three months to none; the extent of team work in work organization; worker's extent of control over his own work; the degree of intensity of work in terms of speed or deadlines; mandatory retirement and pension; loyalty between worker and employer.

This last attribute has been designed to evaluate the benefits of mutual loyalty between the employer and the employee. We proposed here that the labour contracts include explicit arrangements where effort and performance of the employee can be exchanged against commitment of the employer not to layoff people. The first type of arrangement assumes no loyalty between the employer and his employee, the former being likely to fire the latter who is not required to perform efficiently and may shirk. On the contrary, the second type of arrangement postulates that the employee will not suffer from disloyal premature interruption of the labour contract and, in exchange, will be unable to shirk and to perform badly.

Random combination of the levels of the ten attributes would result in a very large number of possible job offers with some of these being unrealistic considering the true jobs available in the labour market. The sample of vignettes has been restricted to 95 hypothetical job offers, divided into 19 combinations of 5 vignettes. Each respondent was then randomly assigned with one of these combinations. The quality of the answering rate was quite reasonable. For example, in France, only 12 out of 1008 interviewed individuals did not answer the vignette questions. On average each respondent has evaluated 4.92 vignettes. Thus, most of the respondents evaluated the 5 proposed vignettes.

Table 2: The vignette's attributes: Descriptive Statistics

Variable	
Type of contract (dummy variables)	
Permanent contract with no risk of being fired	0.18
Permanent contract with risk of being fired with economic compensation	0.13
Permanent contract with risk of being fired with no economic compensation	0.18
One-year contract with high probability of continuation with a permanent contract	0.24
One-year contract with high probability of continuation with a temporary contract	0.16
One-year contract with.no probability of continuation	0.11
Working hours (Working hours ranged from 20 to 50)	36.10
Net wages per hour (expressed as a percentage of wages at current job).	-0.02
Working schedules (dummy variables)	
Flexible working hours	0.17
Office working hours (you can choose which days your work)	0.28
Rotating shifts (system)	0.31
The employer decides about the working times (not in the night) and may change them monthly	0.24
Training (dummy variables)	
The employer offer you in the course of the year :	
a 3 months training program	0.14
a 1month training program	0.18
a 10 days training program	0.21
a 5 days training program	0.21
a 1 day training program	0.11
No training program	0.15
Work organization (dummy variables)	
Job not in teamwork	0.30
Job in varying teamwork	0.32
Job in fixed team	0.38
Control over own work (dummy variables)	
Job has a fixed routine	0.40
Can choose order tasks: job tasks are fixed, but you may decide when & how things are done	0.34
No one controls your work	0.26
Intensity due to high speed (dummy variables)	
Often high speed	0.24
Sometimes high speed	0.16
Never working at high speed	0.16
Intensity due to tight deadlines (dummy variables)	
Often tight deadlines	0.17
Sometimes tight deadlines	0.16
Never working with tight deadlines	0.12
Retirement & Labour disability (dummy variables)	
Have to stop before 65 (because the job is physically very demanding)	0.12
Early retirement 55 (firm has early retirement plan)	0.20
Early retirement 60 (firm has early retirement plan)	0.24
The firm has no early retirement plan	0.16
Like the labour contract is a temporary contract, there is no retirement plan	0.28
Loyalty-no shirking (dummy variable)	
Loyalty from both sides; interruption of the labour contract and shirking impossible	0.57
No loyalty from both sides; Shirking and low performance are possible	0.43

Reading note: the figures in the first line mean that 18% of the proposed job offers includes a permanent contract with no risk of being fired.

III. CHOICE MODEL AND EMPIRICAL SETUP

1. The Choice model.

Kahneman et al. (1997) makes an explicit difference between experienced utility and decision utility, the former being formed by experience of episodes coming from the previous choices of the individual, the latter measuring the weight assigned by the individual to the feasible alternatives in the context of a decision. We consider that the workers' evaluations of the hypothetical job offers elicit the preferences associated with the decision utility, or desirability of the job offers. However, our experimental framework does not give any insight in the workers' experienced utility in job.

These two alternative concepts of utility are not constrained to be logically consistent. A series of experiences reported in Kahneman et al. (1997) and Kahneman and Thaler (2006) have repeatedly highlighted the fact that what people really choose does not coincide with what would make them the most satisfied. Not only do people make inaccurate predictions about the pleasures that will result from the choice, but their choices are also wrongly based on incorrect recognition of past experiences[8]. However, in this paper, our goal is not to assess if there is a likelihood of misprediction or mischoice but to compare the determinants of the scale evaluating the job offers by nonprofit and for-profit workers. Therefore, the benefits of our approach are to reveal the sources of their motivation when they have to engage themselves in a job.

Considering these two concepts of utility as different does not mean that they are not linked with each other. In this paper, we view the decision utility of each worker as a variable depending on the attributes of job offers, his or her measured and unmeasured characteristics and also of hedonic past experience in their current job, namely his experienced utility. In other words, our concept of decision utility is related with the preferences at the very moment of the experiment, similar in essence to the psychological interpretation of discrete choice that can be traced back to Thurstone (1927). It is common in modern psychometric to model the decision utility of an individual as an additive function of observable determinants and a random term allowing utility levels to change from time to time. This functional structure is similar to the more neoclassical view of the random utility model where it is the imperfect

[8] Assuming that experienced utility can be proxied by the levels of satisfaction with one's current job reported by the worker while decision utility is stated by the evaluations of the hypothetical job offers, Ferrer-i-Carbonel et al. (2006) showed significant differences between the two utility concepts using the same database as ours.

information of the analyst about the relevant attributes of both the alternative and the decision-maker that forces to model individual utility as a random variable (Manski, 1977).

Hence, we assume that respondent *i* evaluates each job offer J according to an additive cardinal decision utility function V_i expressed as a linear function of the vector of the *k* attributes of J, $D_J = (D_{1J}, D_{2J}, ..., D_{kJ})$, and the vector of individual and current job characteristics, x_i:

$$V_i(J) = \alpha_1 D_{1J} + \alpha_2 D_{2J} + ... + \alpha_k D_{kJ} + \beta_1 x_{1i} + \beta_2 x_{2i} + ... + \beta_n x_{ni} + \varepsilon_i \quad (1)$$

where the α and β are coefficients measuring the marginal decision utility of the job offers attributes and individual and current job characteristics respectively. ε represents the random component of utility.

This formulation is compatible with first, a Lancasterian intuition stating that individuals derive utility from the characteristics of the job rather from the job per se, and second, that decision utility varies with the individual's characteristics and his experienced utility derived from the attributes of his current job. Choosing this simple additive form allows calculating tradeoffs between any couple of attributes of D_J, i.e. changes in the attributes that will leave the workers indifferent between two different jobs. These trades-off represent the rate at which the worker is ready to give up some amount of one attribute in exchange for another one while maintaining a given level of decision utility for the job. For example, the trade-off between attributes D_1 and D_2 is expressed as $-\frac{\alpha_2}{\alpha_1}$.

Furthermore, interactions between individual characteristics and job attributes may enter into this linear form allowing for taste variation, that is, the marginal utility of any attribute to vary in accordance with the respondents' traits. In this study, we intend to verify the hypothesis stating that the decision utility of for-profit and nonprofit workers may differ through the change in the marginal utility of attributes like working hours for example.

2. Testable hypotheses

The goal of our analysis is to determine whether the decision utilities stated by for-profit and nonprofit workers are identical or not. The reasons for differences in their respective preferences towards the attributes of the job offers can be traced in the alleged intrinsic

motivation of nonprofit workers. Therefore, we can postulate hypotheses to be tested derived from theoretical consequences of superior intrinsic motivation of nonprofit workers.

First, labour donation theory postulates that both the moral, political and ethical goals of nonprofit organizations and the nature of their goods and services aimed at generating social benefits will attract workers who will be ready to work for other than monetary reasons[9]. Then, ceteris paribus, these motivated workers will be ready to work a supplementary hour at a lower wage in a nonprofit organization. Assuming that the remaining attributes of the jobs are properly controlled, a positive piece of evidence in favour of this theory would be a lower wage increase necessary to compensate for a supplementary working hour for nonprofit workers.

Second, following Kreps (1997), we may assume that intrinsic motivation imply that "workers may take sufficient pride in their work so that effort up to some level increases utility." Once again, we will be unable to identify the real causes for workers to consider work as a good up to a certain level of effort, but we may test such an assumption considering a quadratic function of worked hours in the attributes of the decision utility. Therefore, we will be able to identify the decision utility/working hours profile and the optimal number of weekly hours of a job offer for nonprofit and for-profit workers. If the former exhibit superior intrinsic motivation, their decision utility would be concave in work hours while reaching its maximum at longer work duration than for-profit workers.

In our experimental setting, the wage attribute in each vignette is measured as a continuous variable representing the percentage change of the wage at current job, dW_{iJ}/W_i where dW_{iJ} is the difference between the new hourly wage and the wage in the current job W_i for worker *i*. In order to test the two above hypotheses, we can consider the introduction of the weekly working hours as a quadratic form in the cardinal utility function:

$$V_i(J) = \sum_{k=1}^{k=8} \alpha_k D_{kJ} + \delta(dW_{iJ}/W_i) + \gamma(hours)_J + \nu(hours)^2{}_J + \beta' x_i + \varepsilon_i \qquad (2)$$

Therefore, for a given set of job attributes, the optimal number of weekly working hours can be evaluated from equation (2): $hours^* = \frac{-\gamma}{2\nu}$, and then compared between the average

[9] Using data from the American Quality of Employment Survey, Mirvis and Hackett (1983) report evidence that on average "nonprofit workers are more likely to report that their work is more important to them than the money they earn".

nonprofit and for-profit workers to assess the former superior intrinsic motivation. Furthermore, the trade-off between wage changes and working hours leaving the decision utility unchanged is given by $\frac{d(dW_{iJ}/W_i)}{d(hours)_J} = \frac{\gamma + 2\nu(hours)_J}{-\delta}$. If this estimated trade-off for nonprofit workers is inferior to the one of for-profit workers, this can be interpreted as a positive evidence in favour of intrinsic motivation of former.

Finally, the last attribute proposed in each vignette explicitly introduces the concept of loyalty in the design of the hypothetical job offer. The first value of this attribute defines an explicit arrangement in the labour contract where no loyalty is required by the employer and the worker. It says that the latter has freedom to exert a low effort (shirk) and therefore perform badly while the former may dismiss him at his own will even before the end of the duration of the contract. On the contrary, the second value of this attribute specifies an alternative arrangement characterized by loyalty, the employer being credibly committed to job stability in exchange of a strict requirement of high effort. In other words, loyalty can be seen as an example of positive reciprocity between workers and employer.

We hypothesize that for-profit and nonprofit workers may evaluate these two contracts differently. First, if nonprofits are formed to produce some sort of social goods while following strong principles about the best way to do so, the interests of their founders, managers and employees maybe to some extent more aligned than are these of profit-seeking entrepreneurs and their salaried workers. For that reason, it could be hypothesized that nonprofit employees would more attracted to employment relationships where both parties commit to loyal behaviour.

However, in the case of the nonprofit sector, one could also assume that intrinsically motivated employer and workers positively reciprocate without any need of explicit commitment. Unwritten agreement may operate as a norm implying that an employment relationship in the nonprofit sector is at least based on common interest and in consequence on mutual trust. Hence, explicit arrangements could give birth to the well-known crowding-out effect when intrinsic motivation is at least partially reduced by the external motivator. The situations where the introduction of extrinsic incentives can crowd out the intrinsic motivation are reviewed in detail in Frey (1997). Basically, external intervention is likely to interfere with intrinsic work motivation when the worker has the feeling that it acts as an attempt to control his actions. Self-determination and, therefore, intrinsic motivation are weakened.

3. Empirical setup

We will assume that the additive scale or decision utility V_{iJs} of the vignette *J* by the individual *i* working in sector *s* ($s \in$ {*for-profit, nonprofit*}) can be estimated by the following empirical model:

$$V_{iJs} = \sum_{k=1}^{k=10} \alpha_{ks} D_{kJ} + \beta_s' x_{is} + \varepsilon_{iJs} \qquad (3)$$

where the random term is assumed to be independent of the explanatory variables.

We further decompose the error term into a specific individual effect ε_i and a white noise component μ_{iJ}. The specification (3) can be estimated within the for-profit and nonprofit sectors taking advantage of the panel structure coming from the sequence of the five vignettes evaluated by the same individual. Fixed effect and random effect models can be used, the former having the obvious advantage to control for all individual and current job characteristics[10]. However, if individual and job characteristics are properly controlled for, the fact that the levels of the ten attributes in each vignette being chosen at random implies that the likelihood of correlation between individual effects and explanatory variables is nil. Consequently, random and fixed effects estimates of the marginal decision utility of job offers attributes will be equivalent.

Furthermore, the random effects model will allow us to estimate a single model for the whole sample of workers where all the observable attributes of the vignettes will be systematically interacted with a dummy *NP* measuring the nonprofit status of the workers:

$$V_{iJ} = \sum_{k=1}^{k=10} \alpha_k D_{kJ} + \sum_{k=1}^{10} \eta_k D_{kJ} NP_i + \beta' x_i + \varepsilon_{iJ} \qquad (4)$$

Thus, we will be able to test for significant differences in the marginal utility of each attribute *k* of the hypothetical job between for-profit and nonprofit workers ($\hat{\eta}_k \neq 0$).

[10] A Breusch and Pagan Lagrange multiplier test for random effects has shown that the simple regression model pooling data without taking into account individual effect is inappropriate.

However, the true value of the decision utility V_{iJ} is unobservable and we only observe the evaluation U_{iJ} such that $U_{iJ} = f(V_{iJ})$, reported on a discrete 0-10 scale. The observed variable is an ordered variable and our empirical model could therefore be estimated using ordered probit or logit models. However, fixed-effects ordered probit estimation method is still uncertain and quite difficult to handle. For the purpose of tractability and to facilitate the computations of the tradeoffs between wages and the remaining attributes, we take advantage of our assumption of a cardinal decision utility index and have chosen to transform the discrete reported evaluations of the vignettes U_{iJ} into values denoted $\overline{U}_{iJ}$ measured on the real axis. This transformation requires that the transformed values preserve the ranking of the original evaluations.

In this paper, we will use the Cardinal Ordinary Least Squares method (COLS) introduced by van Praag and Ferrer-i-Carbonell (2004, Chapter 2). Considering the discrete scale 0-10, we assume that any discrete value taken by our observed variable U_{iJ} represents a transformation of V_{iJ} originally belonging to one of the intervals [0,0.5],]0.5,1.5],…,]9.5,10]. If the scale is then linearly transformed into the 0-1 scale, we can construct our new variable $\overline{U}_{iJs}$ for each one of the eleven possible values using the following formula:

$$\overline{U}_{iJ} = E(V_{iJ} \,|\, \lambda_{n-1} < V_{iJ} < \lambda_n) = \frac{\varphi(\lambda_{n-1}) - \varphi(\lambda_n)}{\Phi(\lambda_n) - \Phi(\lambda_{n-1})} \tag{5}$$

where the $\lambda \in \{0, 0.05, 0.15, 0.25, \ldots, 0.95, 1\}$ and $\phi(.)$ and $\Phi(.)$ represent the normal density and distribution functions respectively. The new dependant variable $\overline{U}_{iJs}$ of our model is the conditional mean of V_{iJs}. Our econometric model (4) is then rearranged as follows:

$$\overline{U}_{iJ} = \sum_{k=1}^{k=10} \alpha_k D_{kJ} + \sum_{k=1}^{10} \eta_k D_{kJ} NP_i + \beta' x_i + \varepsilon_{iJ} \tag{6}$$

and can be estimated using conventional linear methods. Moreover, Ferrer-i-Carbonel and Frijters (2004) have shown that the estimated coefficients obtained with the COLS method are

identical to the coefficients obtained with ordered probit model, up to a multiplying positive factor, therefore leading to identical trade-offs between the attributes[11].

IV. RESULTS AND INTERPRETATIONS

Results from the random effect model where attributes are interacted with a dummy for the nonprofit status of the respondent are reported in Table 3. The estimated coefficients associated with the different values of the attributes for the for-profit workers are given in the first column. In the second column, we report the differences in estimated marginal decision utilities of the attributes between nonprofit and for-profit workers. We have also run within sector random and fixed effects estimations of the decision utility. These estimations are presented in Table A1 for the nonprofit sector and in Table A2 for the for-profit sector (see appendix). We can observe that the random effects estimates obtained within sector are very similar to the ones reported in Table 3 as it was predicted.

1. Evaluation of job attributes not related to intrinsic motivation

Inspection of the Table 3 will first help to assess what aspects of job attributes are the most important for European low qualified workers. In terms of job attributes, the workers are more sensitive to the type and horizon of the labour contract than to any other job characteristics except wage increases. Respondents from both sectors evaluate the values of this attribute identically. Not surprisingly, the respondents rank first a permanent contract with no risk of being fired and last a one-year contract with no probability of continuation. More interesting is the fact that they would prefer a temporary contract with a strong probability to remain employed one year later either permanently or temporarily to a permanent contract with a high probability to be fired. Such a result seems to prove that low educated workers exhibit a preference for job security even at the cost of short term precarious position. This result appears in line with the study of Origo and Pagani (2009) showing using the 2001 Eurobarometer Survey that temporary but secure jobs are ranked higher than permanent but insecure jobs in terms of job satisfaction.

[11] The presentation of vignettes being perfectly randomized and the respondent being able to revise his evaluation of each vignette all along the duration of the experiment, we can discard the risk of an effect of the ordering of the vignettes on the reported levels of satisfaction with the job offers.

When considering the influence of various working times, for-profit and nonprofit workers exhibit similar preferences. They both incline toward flexible working times associated with a freedom of choice. Hence, a labour contract where they are supposed to start at usual working times only ranked second. Decision utility of the job offer appears to increase when workers are given at least some discretion while both options of working hours decided by the employer and, especially, rotating shifts are seen as unattractive.

For-profit and nonprofit workers exhibit also similar preferences with respect to training. The offer of training programs in a job significantly increases its decision utility. Furthermore, the longer the training period is, the more attractive is the job offer.

Looking at work organization, for-profit workers find more attractive a job in which no team work is involved. On the contrary, nonprofit workers appear to rank first working in a fixed team and last working in a varying team. It is then difficult to strongly state that these workers have a superior taste for working in group.

In terms of control over work, the respondents from the two sectors show an identical and strong preference for autonomy over routine. However, to be given fixed tasks, together with the freedom to decide when and how execution should be done, is preferable to a complete control over one's work content.

In terms of control over work, the respondents show a strong preference for autonomy over routine. However, to be given fixed tasks and freedom to decide when and how execution should be done is preferable to a complete control over the contents of the work.

Working at high speed, involving being put under physical tension, drives nonprofit and for-profit respondents to decrease their decision utility for the job offer. This negative evaluation is even strengthened when workers have to work with tight deadlines, a proxy for psychological pressure, nonprofit workers being even more negative about this attribute. A possible explanation for this surprising result may be found in the characteristics of the jobs in nonprofit sector. Among the various questions about their work roles in the Mirvis and Hackett study cited above, nonprofit workers were especially negative about the more demanding time pressure they had to face. If European nonprofit workers also have to deal with such time pressure, respondents may have been induced to rank this characteristic very badly according to their experience in current jobs.

Finally, workers from both sectors tend to prefer a job which gives them the opportunity to quit their job 5 to 10 years before the legal retirement age.

Table 3: Random effects COLS model of decision utility (model with interaction terms)

	Marginal utility for attributes (For-profit workers)		Difference in marginal utility for attributes between groups	
	Coeff.	**t-value**	**Coeff.**	**t-value**
Temporary contract to unemployment	Ref.		Ref.	
Permanent contract with no risk of dismissal	0.402***	13.60	-0.080	0.483
Permanent contract with risk but compensation	0.262***	8.54	-0.080	0.80
Permanent contract with risk and no compensation	0.064**	2.05	-0.093	0.92
Temporary contract to permanent contract	0.230***	7.49	0.018	0.18
Temporary contract to temporary contract	0.288***	11.20	-0.084	1.00
Working hours	0.047***	7.66	0.039**	1.98
Working hours squared	-8E-4***	9.71	-6E-4**	2.06
Wages	1.173***	55.45	-0.046	0.67
Working time decided by employer	Ref.		Ref.	
Flexible working hours	0.141***	5.94	-0.074	0.96
Office working hours	0.103***	5.10	0.034	0.53
Rotating shifts	-0.066***	3.38	-0.026	0.42
No training	Ref.		Ref.	
Training 1 to 3 months	0.116***	6.19	0.071	1.14
Training 1 to 10 days	0.064***	3.74	0.074	1.31
Job in fixed team	Ref.		Ref.	
Job not in teamwork	0.034**	2.02	-0.134**	2.51
Job in varying teamwork	0.008	0.48	-0.131**	2.47
No one controls your work	Ref.		Ref.	
Job has a fixed routine	-0.117***	6.63	-0.030	0.53
Can choose order tasks	0.053***	2.82	0.014	0.23
Never working at high speed	Ref.		Ref.	
Often high speed	-0.162***	8.78	-0.074	1.24
Sometimes high speed	0.002	0.09	-0.045	0.65
Never working with tight deadlines	Ref.		Ref.	
Often tight deadlines	-0.110***	5.36	-0.139**	2.14
Sometimes tight deadlines	-0.028	1.42	-0.047	0.72
Firm has no early retirement plan	Ref.		Ref.	
Have to stop before 65	0.072***	2.58	0.106	1.20
Early retirement 55	0.215***	9.54	-0.066	0.93
Early retirement 60	0.194***	8.42	-0.082	1.09
Loyalty-No-shirking	0.120***	8.32	-0.096**	2.11
Constant	-1.002***	4.82		
Number of observations	18574			
Number of groups	3744			

Note: The model also includes variables measuring current wage, weekly work hours, gender, age, age squared, level of education and dummies for country specific effects. The coefficient is significant at: *** 1%, **5%: and * 10% level.

We turn now to the three attributes that we hypothesized to be differently valued by the two groups of workers because of alleged differences in their work motivation. In sub-section 2 below, we will discuss if the respective decision utility functions of nonprofit and for-profit workers differ in terms of the weight associated with wages and working hours. In sub-section 3, we will show evidence of motivational differences for the workers of the nonprofit and for-profit sectors in the valuation of employer's loyalty.

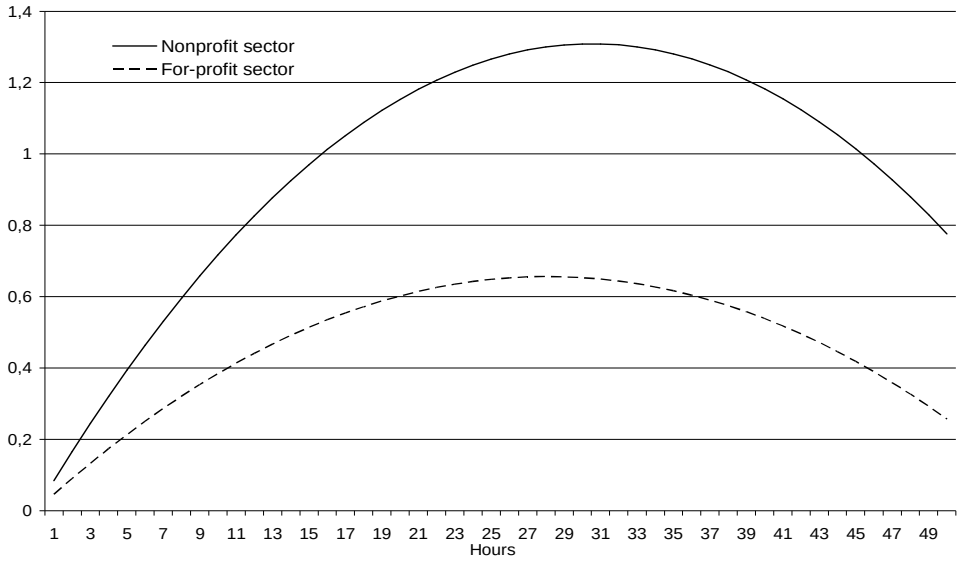
2. Wages and working hours

A. The Optimal number of working hours and the trade-off between wages and working hours

When turning to the effects of weekly working hours on decision utility, the results exhibit clear differences between the two groups of workers. The coefficients measuring the respective marginal decision utilities of working hours and working hours squared for nonprofit and for-profit workers are significantly different at the 5% level. The relation of decision utility levels with the number of working hours shows a clear inverted-U-pattern, with this profile reaching a maximum at 28.1 hours a week for the for-profit workers and about 30.5 hours a week for the nonprofit workers. Using the delta method to approximate the relevant statistical moments, the difference in these two maxima is statistically significant at the 10% level. This result is clearly in line with the labour donation hypothesis as nonprofit workers reach their maximum utility at a higher number of working hours, showing a higher intrinsic motivation for work.

We can also assess how much the difference in terms of preferences towards working hours contribute to the differences in decision utility between nonprofit and for-profit workers. The Figure 1 below represents the estimated contribution of working hours to the decision utility for the two categories of workers. It clearly shows that the length of the working week has a higher weight for nonprofit workers in their evaluation of job offers, for all usual values of weekly working hours. It is also noteworthy to observe, that beyond the optimal length of the working week, the loss of utility from working a supplementary hour is higher for nonprofit workers than for for-profit ones. The trade-offs between wages and working hours will be discussed below.

Figure 1: Working hours-Decision utility profiles in nonprofit and for-profit sectors



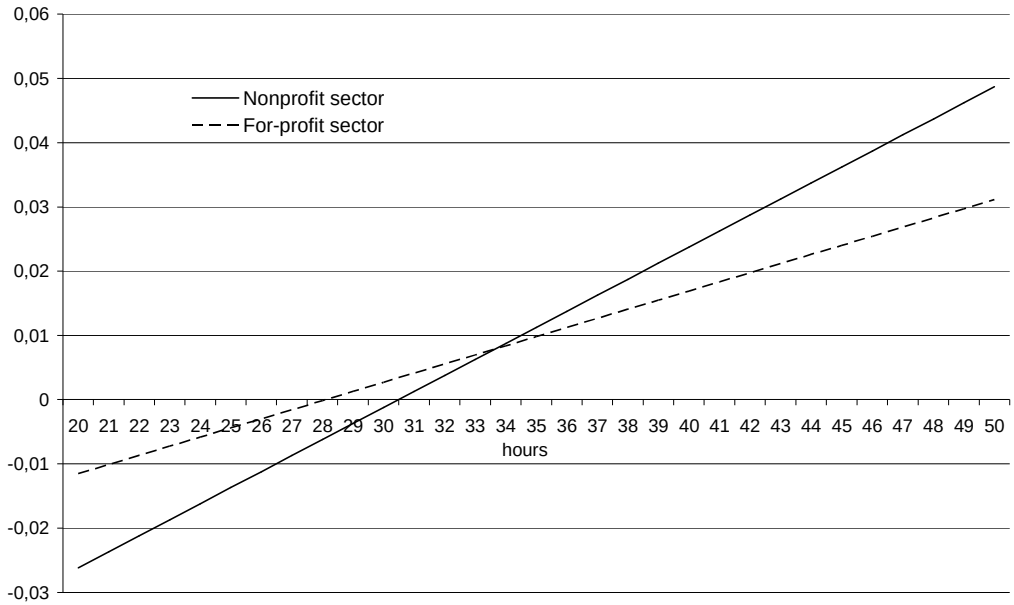
Note: These effects have been estimated using the results obtained from Table 3.

As predicted by conventional utility theory, the absolute wage has a positive impact on the evaluation of the job offer. The marginal effect of the percentage change of wage at current job is around 1.17 for for-profit workers while it is inferior for nonprofit workers, around 1.13, but the difference is not significant at the usual statistical levels. This result does not strictly contradict the theoretical view that nonprofit workers would be ready to make a labour donation that is working for a lower wage than for-profit workers ceteris paribus. Even if the marginal utility of wage is equal for both categories of workers, nonprofit ones may still self-select if they are ready to make a donation in work effort. Then, nonprofit firms would succeed to attract the workers who are the most willing to trade off wages for effort.

Therefore, we further investigated our first findings on the optimal length of the working week, calculating the trade-off between wages and working hours for the two categories of workers. These trade-offs have been displayed using random effects estimations within sector presented in Tables A1 and A2 of appendix[12]. The predicted values of the trade-offs between wages and working hours over the admitted range of the working week in the vignettes have been plotted in Figure 2.

[12] A similar set of trade-offs, using fixed effects estimates also presented in Tables A1 and A2 of the appendix, has been calculated but are not shown here. Their shape is very similar to the ones shown in Figure 2 as the results of fixed and random effects estimates are almost identical because individual specific effects cannot be correlated with the vignettes attributes, the vignettes being assigned randomly.

Figure 2: Trade-offs between wage change and working hours in nonprofit and for-profit sectors



Note: These trade-offs have been displayed using random effects estimations within sector presented in Tables A1 and A2.

It can be seen that the optimal length of the working week, equivalent at a zero trade-off between wages and working hours, is higher for the nonprofit workers, with similar values to the ones calculated above. Moreover, whenever nonprofit workers are offered a contract with fewer weekly hours than their optimum, they are ready to give up a higher percentage of their current wage than for-profit workers in order to work a supplementary hour. Accordingly, not only do they experience an increase in utility from working for a longer working week than for-profit workers, but they are ready to exchange wage for work at a lower rate whenever they are intrinsically motivated. For example, if employees were required to increase their working hours from 20 hours a week to 21, nonprofit ones would be ready to give up 2.61% of their wage in comparison of a 1.15% decrease in the case of for-profit workers.

However, this pattern is reversed when the required working hours become slightly higher than the optimal value of the working week. For a working week longer than 33.5 hours or so, nonprofit employees need a higher increase in wage than their for-profit counterparts to compensate for any supplementary hour of work. In order to be indifferent to work a 40^{th} hour per week, nonprofit employees would have need of a wage increase of

2.37% while their for-profit counterparts would ask for a wage raise of 1.69%. Once the employer demands hours in excess to the optimal length of the working week, nonprofit workers seem more and more reluctant to offer supplementary effort in exchange of supplementary wages.

Altogether our empirical evidence draws a more complicated pattern than the simple assumption that nonprofit workers would be ready to supply labour at a lower price. Hence, for-profit workers also appear to obtain intrinsic satisfaction from their work but are less motivated than those in the nonprofit sector for short working week. Indeed, intrinsic work motivation can be observed in any sector of activity as long as the contents of the job, like interest, autonomy and prestige, are properly designed[13]. It is therefore the differential in intrinsic motivation, illustrated by our results, that is caused by the nonprofit status of the organization.

Besides, intrinsic motivation of nonprofit workers seems to fade away more rapidly. An explanation for this result may be found in the crowding out effect of intrinsic motivation. If the higher intrinsic motivation of nonprofit workers lies in the nature of the goals of their organization, its socially beneficial content for example, the demand for long working week beyond its optimal level requires supplementary compensation acting as an extrinsic motivator. This will shift the nature of the employment relationship from an agreement at least partially founded on benevolent donation to a more common market-type exchange based on performance. In such a situation, Frey (1997) has argued that "The price system therefore tends to substitute intrinsic by extrinsic motivation due to a perceived shift in the locus of control". The more the nonprofit workers were originally intrinsically motivated, the higher will be this crowding out effect and the larger the wage increase necessary to maintain the previous level of motivation.

Interestingly enough, if nonprofit organizations require high levels of intrinsic motivation of their employees, they can succeed to attract them with labour contracts offering relatively low wages and short working week. On the contrary, workers who are not intrinsically motivated for working in nonprofit sector will take employment in the for-profit sector enjoying the wage premium attached to employment there. This self-selection explanation may explain why it is widely reported that there are more part-time employees in the nonprofit sector and why the working week is also shorter. Survey-based descriptive statistics

[13] Empirical evidence has been found of the positive effect of type of job, its interest and devoted autonomy on the well-being at work (see e.g. Clark, 2005, Kalleberg and Vaisey, 2005; Van Praag and Ferrer-i-Carbonell, 2004).

are rare but Ruhm and Borkowski (2003) and Leete (2001) report that nonprofit workers work on average three hours less par week. Personal calculations from the French Labour force Survey in France in 2001 reveal that the average weekly working hours are 33.9 and 36.5 including part-time workers in nonprofit and for-profit organizations respectively. This evidence is in line with our view of nonprofit organizations designing their labour contracts in accordance with the need of recruiting intrinsically motivated workers.

However, different composition of the workforces in the nonprofit and for-profit sectors may also contribute to explain this result. For example, it is well-known that more women are found to be employed in nonprofit organizations than in for-profit firms (see Leete, 2001, and Narcy, 2009, for North American and French evidence respectively). If a large proportion of these women have working husbands and children, their opportunity cost of work may rise rapidly with the duration of the working week. Therefore, the reported differences between nonprofit and for-profit workers in the weight of working hours and wages in decision utility functions could reflect a gender influence. More generally, if some categories of workers are overrepresented in the nonprofit sector and simultaneously have a higher valuation of leisure, the higher raise in wages required to work longer in the nonprofit sector could be explained on the basis of more common labour supply arguments. Therefore, we should be careful at disentangling motivational effects from those resulting of differences between nonprofit and for-profit sectors in gender, age of the workforce and length of the working week. Hence the following section will replicate our econometric model in order to assess if stated preferences differed across various subgroups of the population: male and female workers, young and old ones and those experiencing short or long working weeks. We will thus assess the robustness of the above results.

Finally, we may question the validity of the estimates of wage-working hours trade-offs considering that the attribute measuring compensation is expressed as a percentage change of the current wage of the respondents. This experimental presentation has been chosen by the requirement that the scenarios in the vignettes are understood similarly by all respondents. Proposing a wage change allows assessing the marginal utility of a gain or loss in compensation equivalent for all agents in terms of purchasing power. However, as it is usual to receive a job offer with an absolute compensation proposal, the respondents may have evaluated the hypothetical job offer in terms of wage, mentally substituting the promised wage change with the corresponding absolute wage level. To prevent any kind of framing effect explaining our result, we will present in the following section a sensitivity analysis of our findings when absolute wage is substituted for wage change.

B. Sensitivity analysis and robustness of the results

In our sample of study, 70.8% of the nonprofit workers are female while this share is only 49.1% in the for-profit sector. In the first column of Table 4 are reported the results of random effect model of decision utility where the vignette attributes are interacted with a gender dummy. First, it can be seen that male and female workers maximize their decision utility for an identical number of 28 working hours per week. Thus, the fact that nonprofit workers reach their maximum utility at a longer duration of the working week cannot be explained by the large share of female workers. Second, in contradiction with nonprofit and for-profit workers, male and female workers display unequal marginal utility of wages. These two differences with our original results also reflect in the shape of the utility-working hours profiles and of the trade-offs between wages and working hours. These can be observed from Figures 3b and 4b[14]. Therefore, the large proportion of female workers in the nonprofit workforce cannot be the explanation of the motivational differences between nonprofit and for-profit workers.

Table 4: Influence of wage change and working hours on decision utility by gender, age and length of working week

	Male	**Female-Male**	**Old**	**Young-Old**	**Long**	**Short-Long**
Working hours	0.035***	0.029**	0.051***	-0.002	0.061***	-0.022*
	(4.27)	(2.54)	(6.18)	(0.20)	(7.88)	(1.95)
Working hours^2	-0.0006***	-0.0005***	-0.001***	0.00001	-0.001***	0.0002
	(5.38)	(3.12)	(7.63)	(0.11)	(9.07)	(1.30)
Wages	1.259***	-0.178***	1.120***	0.094**	1.261***	-0.204***
	(43.96)	(4.44)	(39.02)	(2.33)	(46.65)	(5.07)
Optimal number of working hours	28.22	28.56	28.79	28.04	30.95***	24.84
N observations	**18574**		**18574**		**18574**	
N groups	**3744**		**3744**		**3744**	

Note: Old: employees above 36 years old; Long: employees working more than 36 hours per week. The model also includes other job attributes and variables measuring current wage, weekly work hours, gender, age, age squared, level of education and dummies for country specific effects. The coefficient is significant at: *** 1%, **5%: and * 10% level.

Nonprofit and for-profit workforces also differ in terms of age structure, average age being respectively 41.2 and 35.9 years in our sample. To account for differences in preferences by age, we distinguished two groups: the young workers with an age inferior to 36 years (the median age of the population of study) and the old workers with an age superior to 36 years. Once again, we estimated the decision utility model interacting attributes with the age group dummy. Results reported in the second column of Table 4 reveal that young and

[14] Figures 3a and 4a reproduce Figures 1 and 2 for comparison purpose.

old workers have identical utility-workers hours profiles (see also Figure 3c). They only differ in terms of marginal utility of wages but the difference is so small that trade-offs between wages and working hours are almost similar (see Figure 4c).

Figure 3: The effect of working hours on the decision utility by gender, age and length of working week

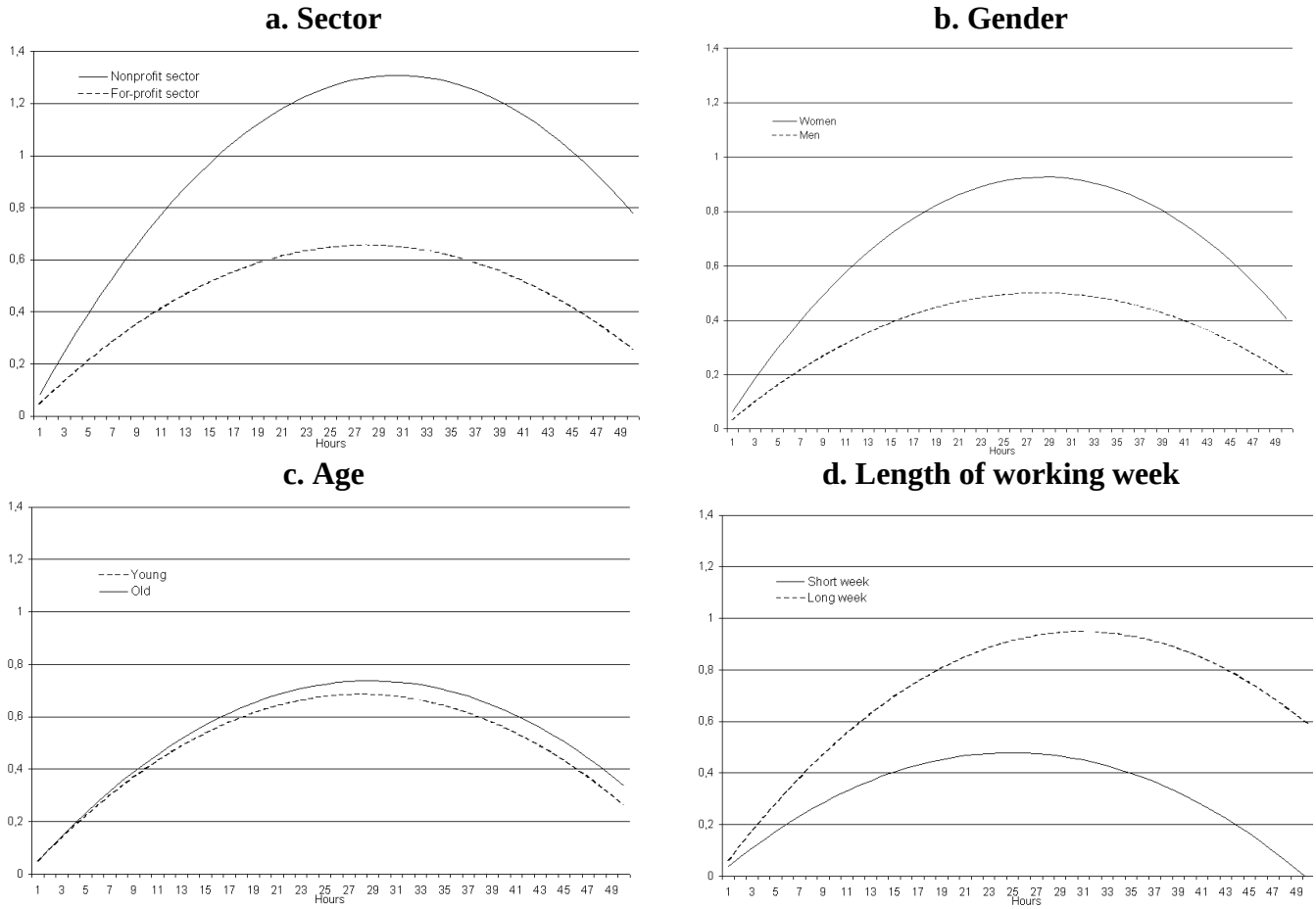
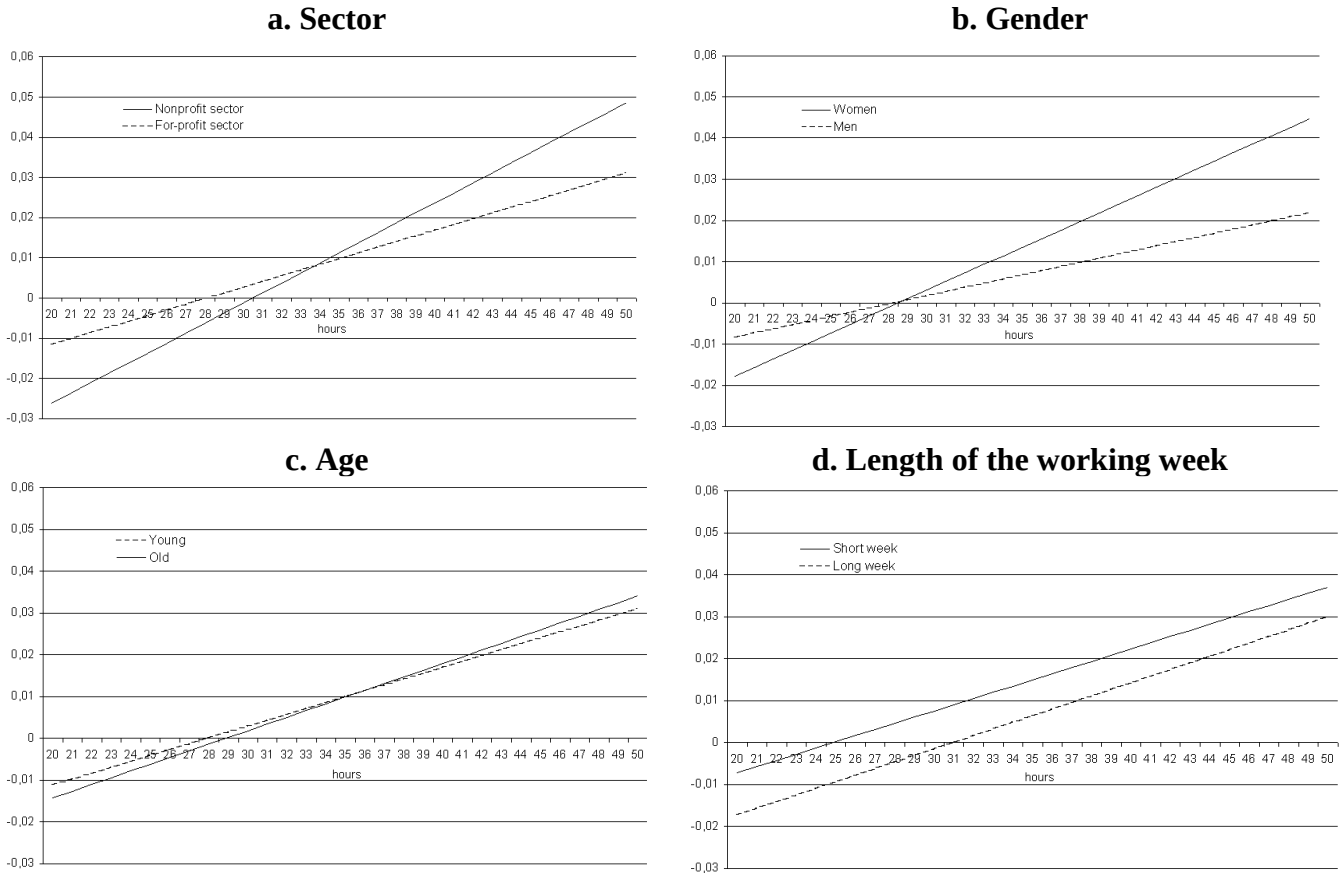


Figure 4: Trade-offs between wages and working hours by gender, age and length of the working week



Finally, we reproduce the same exercise for the subgroups of workers with short and long working week. In fact, the average length of the working week is 27.5 hours in the nonprofit sector and 32.1 hours in the for-profit sector (part-time and full-time workers altogether). We separated the population in two subgroups: the "long contracts" which represent individuals with working hours superior to the median of the population (i.e. 36 hours per week) and the "short contracts" which represent individuals with working hours inferior to the median of the population and replicate our econometric specification for these two subgroups. As expected, workers experiencing long working week exhibit a higher optimal number of working hours than the "short contracts". In fact, the relation of decision utility levels with the number of working hours reaches a maximum at 30.9 hours a week for the "long contracts" and about 24.8 hours a week for the "short contracts" (see Figure 3d). The difference in these two maxima is statistically significant at the 1% level (see the third column of Table 4). Moreover, the marginal utility of wages is significantly higher for the "long contracts" than for the "short contracts". As described in Figure 4d, the "short contracts" always exhibit a higher trade-offs between wages and working hours than the "long contracts". Hence, whenever workers

experiencing long working week are offered a contract with fewer weekly hours than their optimum, they are ready to give up a higher percentage of their current wage than workers experiencing short working week in order to work a supplementary hour. As soon as the employer requires hours in excess to the optimal length of the working week, the "short contracts" would require a higher increase in wage than the "long contracts" from the for-profit sector for any supplementary hour of work. If they were no specific motivational motives, the large proportion of 'short contracts' in the nonprofit sector would therefore imply results in direct contradiction with our original ones.

These successive robustness exercises confirm that the motivational differences between nonprofit and for-profit workers constitute the major explanation to their different evaluations of working hours and wages.

Finally, we have estimated again our econometric model (equation 6 above), substituting for the percentage wage change the absolute wage that would be earned in the job offer. Because of missing values for current wage levels and working hours, we were unable to calculate actual hourly wage for all respondents and the number of usable observations fell to 15020. We do not report all the regression results, instead we present a summary Table 5 with the marginal effects of absolute wage and working hours on decision utility, together with the optimal number of working hours for both categories of workers.

Table 5: Influence of wage and working hours on decision utility

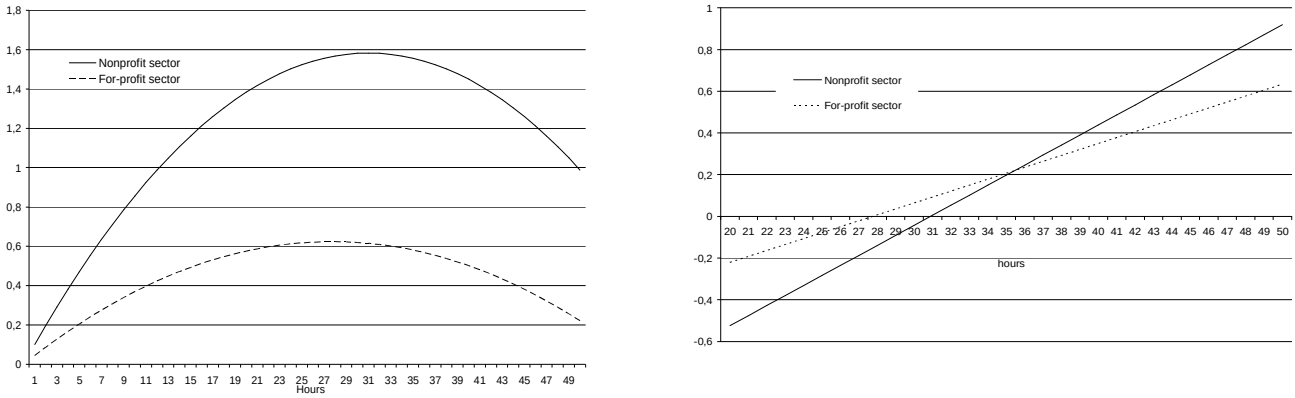
	Pooled regression		**Within sector regression**			
	Random effects		**Random effects**		**Fixed effects**	
	FP	**NP-FP**	**FP**	**NP**	**FP**	**NP**
Working hours	0,045***	0,057**	0,045***	0,101***	0,054***	0,111***
	(6,35)	(2,42)	(6,34)	(4,68)	(6,60)	(4,54)
Working hours^2	-0,0008***	-0,0008**	-0,0008***	-0,0016***	-0,0009***	-0,0018***
	(8,15)	(2,51)	(8,14)	(5,38)	(8,325	(5,17)
Wages	0,057***	0,006	0,057***	0,068***	0,096***	0,098***
	(30,61)	(1,10)	(30,26)	(12,10)	(38,89)	(14,04)
Optimal number of working hours	27,72**	31,00				
N observations	**15020**		**13636**	**1384**	**13636**	**1384**
N groups	**3024**		**2746**	**278**	**2746**	**278**

Note: The coefficient is significant at: *** 1%, **5%: and * 10% level.

It is very clear from Table 5 that the inclusion of absolute wage did not change the logic of our original results. Nonprofit and for-profit workers have an identical marginal utility of absolute wage. Furthermore, the working hours-decision utility profile remains concave for

both types of workers with a slightly higher optimal number of working hours for nonprofit workers. We also present in Figure 5 the shape of these profiles that are very similar to the ones in Figure 1. Finally we also present the trade-offs between absolute wage and working hours that are properly estimated as the marginal rate of substitution between wage and working time. Once again, our findings are little affected by the sensitivity analysis: nonprofit workers are still ready to abandon a larger amount of wage for a supplementary work hour whenever the duration of the working week is below 35 hours while the pattern is reversed above this level. We can therefore conclude that the use of wage change rather than absolute wage in the vignettes is not a major issue for our study. Overall, the empirical results indicate that nonprofit workers seem to enjoy higher intrinsic motivation than their for-profit counterparts but that this motivation is likely to be crowded out when the firm proposes working week longer than 33 to 35 hours.

Figure 5: Working hours-Decision utility profiles and trade-offs between wages and working hours when absolute wage is used as a regressor.



3. Reciprocal loyal behaviour

The evaluation of the attribute defining the job in terms of reciprocal loyal behaviour by employer and employees reveals strong differences in preferences between the two groups of workers. Our findings show that for-profit workers evaluate more highly job offers where the labour contract specifies explicitly that a no shirking commitment is exchanged for employer's no layoff commitment. In contrast, nonprofit workers do not obtain higher utility from such a deal, neither from the possibility to shirk on behalf of an uncommitted employer.

None of these two explicit contractual arrangements significantly influences the decision utility of job offers in the nonprofit sector[15].

Therefore, to rationalize these findings, it is necessary to explain simultaneously the preferences of for-profit workers for reciprocal commitment to be loyal over the opportunity to save on effort and the indifference of nonprofit ones between these two contractual alternatives.

We interpret such differences in evaluation when confronted to these explicit behavioural commitments as another evidence of the specific nature of motivation of the two workers categories. Without the last attribute, the work contract proposed in the vignettes is incomplete specifying compensation level, working hours and conditions but without mention of incentives to restrain potential opportunistic behaviour. In the labour market, the nature of the work motivation in for-profit and nonprofit sectors alters the behavioural norms of employees and the choice of explicit incentives practices by employers. In the for-profit sector, employers are seen as profit-maximizers, therefore induced to dismiss workers whenever they are no longer profitable; on the other side, workers are assumed to dislike effort and therefore induced to shirk. In this classic agency relationship, the interests of both parties are likely to be orthogonal and so is expected the adoption of practices devoted to discipline opportunistic behaviour. However, in the nonprofit sector, in case of self selection of intrinsically motivated workers, we may assume that the interests of manager and workers are more aligned, considering that they share some common goals in terms of the nonprofit organization's mission. When this is the case, Besley and Ghatak (2005) have shown that the intensity of incentive contracts should be lowered in nonprofit organizations in comparison with for-profit firms. Empirical research has shown that for US nonprofits this theoretical argument seems consistent with real practices (see e.g. Ballou and Weisbrod, 2003, DeVaro and Brookshire, 2006, Roomkin and Weisbrod, 1999). Hence, as our experimental subjects are workers and not students, we may hypothesize that their reactions to proposed incentive systems are influenced by the respective contractual norms in their work sector.

Then, the last attribute of the vignettes completes the labour contracts with two explicit incentive systems. The first one offers complete freedom to employer and employees to shirk and layoff at will. The alternative proposes a reciprocal commitment of no layoff and no shirking. It has a flavour of fair-wage arrangement in the Akerlof type, the compensation gift being replaced by a job security clause. For given wages and working conditions, the

[15] The marginal utility of loyalty-no shirking arrangement is obtained summing the two coefficients presented in the last row of Table 3. Statistical test rejects hypothesis of significance of this marginal utility.

employer promises job security as long as the workers' effort is satisfactory. Our results show that for-profit employees welcome this job security-effort exchange as a valuable incentive system. We interpret this finding as supplementary experimental evidence that individuals favour positive reciprocal behaviour in the context of labour relations as it has been regularly shown in laboratory experiments (see Fehr and Schmidt, 2003).

On the contrary, if the nature of the goals pursued in the nonprofit sector provides the workers with high work morale, they do not obtain any gain in well-being from a supplementary demonstration of loyalty from their employer. On the contrary, if nonprofit workers originally consider their manager as another agent of the nonprofit organization's trustees, motivated by the nature of the mission, any supplementary command will signal that the true nature of the employment relationship is modified. Explicit offer of job security in return of high effort reveals that there is no implicit cooperation, nor reciprocity with the employer. Similarly, the explicit exchange of shirking against risk of layoff conveys a message signalling that the nonprofit employer sees his employees as opportunists. In both case, the explicit loyalty or disloyalty offers act as an extrinsic control that changes the perception of the contract.

This evidence is very similar in spirit with the experimental results summarized in Fehr and Gachter (2002) and Gachter and Falk (2002). The authors report that the introduction of an explicit fine in effort experiment may undermine the efficiency of work arrangements based on unwritten reciprocity. The fine can be seen as a signal of distrust from the employer. The interpretation of our result also mimics the rationale given by Gneezy and Rustichini (2000) for the results of their task experiment under different systems of payments. They found out that workers paid a fixed fee exert a higher effort than workers with the performance contract when the piece-rate was too low. When the piece rate was introduced, the nature of the contract was modified and intrinsic incentives were lost until the extrinsic motivator reached a sufficiently high level. We see the Gneezy and Rustichini's results as ours as examples where intrinsic motivation can be crowded out by extrinsic motivators. This phenomenon was rationalized by Benabou and Tirole (2003). Their informed principal-agent model shows that when the motivated worker is less informed than the manager a change in the way of compensating the job may lead the agent to reassess his beliefs about his own quality or about the nature, interest and difficulty of the job. In our experiment we believe that nonprofit workers see the additional incentives as a signal of mistrust from the employer.

Our experimental design does not offer any supplementary evidence to confirm our interpretation. Nevertheless, our survey includes questions about the use and efficiency of

incentives schemes in the current job of the respondents. Consequently, we can provide supplementary evidence that for-profit and nonprofit workers are not usually subject to the same type of incentives practices. First, for-profit workers are significantly more likely to experience the use of performance pay as they are 22.5% declaring that they could receive extra payments like bonus or stock options and 7.5% that they receive merit pay against respectively 6% and 3% of the employees in the non profit sector. Moreover, using the same dataset, Lanfranchi and Narcy (2008, b) documents that payment incentives and strict monitoring have a lower effect on the effort declared by nonprofit workers in comparison with for-profit workers; in addition, when questioned about the incentives that would help to increase their effort in the job, strict supervision and pay incentives are more favoured by for-profit respondents. This piece of evidence seems to confirm that nonprofit workers are less likely to work on high-powered incentive schemes but also to positively react to their introduction.

Another explanation for the strong preferences of for-profit workers for the no layoff-no shirking commitment could rely on their feeling of insecurity in their current job. However, we believe that we can rule out this explanation as a major determinant of our results. First, it cannot explain why the nonprofit workers would be indifferent between the two proposed alternatives. Second, results reported in Table 3 have shown that nonprofit and for-profit workers do not significantly differ in their preferences for the security and horizon of the proposed job offers. Finally, in our survey, we tried to check the extent to which respondents feel the threat of unemployment; they were asked about their subjective likelihood of finding an identical job (wage and characteristics) in the next six months if they were to lose their actual one. Evidence does not seem to back up the job security explanation as more than 61% of the for-profit workers foresaw a successful job search as likely or very likely while only 51% of the nonprofit ones did so.

V. SUMMARY AND CONCLUDING REMARKS

Workers' intrinsic motivation to contribute to the production of social benefits should be reflected in their relative desirability for the various characteristics of jobs. Hence, when workers exhibit intrinsic motivation, they would be ready to raise their level of effort in exchange of a smaller wage increase. Furthermore, this type of employees would also be less in need of strict monitoring as they share the basic goals of their organization. In this paper,

we hypothesized that nonprofit salaried workers exhibit higher levels of intrinsic motivation than their for-profit counterparts and that should be reflected in different shapes of decision utility for these two categories of workers.

Therefore, we empirically approach this problem using conjoint analysis, an empirical method to get insight into the respondents' preferences for fictitious alternatives called vignettes. Quite common in marketing research, this methodology is a novel approach to the question of what workers evaluate positively and desire in job traits, and how their preferences affect labour market outcomes. Our experimental protocol proposes to real life workers to evaluate five hypothetical job offers, described as a combination of ten attributes.

Our empirical results show support for the hypothesis that nonprofit and for-profit workers have different preferences towards work effort, wages and direct monitoring. First, nonprofit workers appear to exhibit a higher level of intrinsic motivation as their evaluation of job offers increases with weekly working hours up to 30 hours while for-profit workers' evaluation decreases after 28 hours or so. Second, nonprofit workers are willing to exchange a higher percentage of their wage than for-profit workers for a supplementary working hour, as long as the working week is inferior to 33 hours. More surprisingly, things are reversed for a longer working week, a result that may explained by a crowding out effect of intrinsic motivation. Third, our findings show that for-profit workers evaluate more highly job offers where higher effort is exchanged for employer's loyalty in terms of job stability. However, nonprofit workers do not derive higher utility from such a reciprocal explicit agreement. We can only conjecture that this decisional pattern is driven by a tendency to reject the introduction of an extrinsic motivator, the written clause of loyalty, in an implicit contract based upon mutual confidence. Indeed, incentives in current jobs in the nonprofit and for-profit sectors appear somehow different with firms in the latter sector being more prone at introducing various external motivators for inducing higher levels of effort.

In conclusion, we can raise three main contributions of our analysis. First, the use of conjoint analysis has revealed fruitful as it helped to determine the relative importance of many various attributes for nonprofit and for-profit workers. It was therefore possible to compare their willingness to pay for working hours and evaluate their work intrinsic motivation. Second, the evaluation of hypothetical job offers confirms that nonprofit workers seems to be more intrinsically motivated than their for-profit counterparts as they are ready to work longer for lower wages. But this motivation is fragile and likely to fade out if nonprofit employers propose long weekly hours or try to monitor too closely their workforce. Finally, the results plead for a self-selection explanation of the differences in job characteristics and

human resources practices between nonprofit and for-profit sectors. Low wages, short working week and precautionary use of incentive schemes emerge as a set of efficient practices to attract devoted workers in nonprofits.

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Table A1: COLS models of decision utility in nonprofit sector

	Random effects		Fixed effects	
	Coeff.	**t-value**	**Coeff.**	**t-value**
Temporary contract to unemployment	Ref.		Ref	
Permanent contract with no risk of dismissal	0.309***	3.44	0.341***	3.59
Permanent contract with risk but compensation.	0.176*	1.87	0.188*	1.87
Permanent contract with risk and no compensation	-0.042	0.45	-0.031	0.30
Temporary contract to permanent contract	0.232**	2.46	0.267**	2.54
Temporary contract to temporary contract	0.204***	2.59	0.249***	2.92
Working hours	0.085***	4.62	0.093***	4.35
Working hours squared	-0.001***	5.37	-0.001***	5.00
Wages	1.122***	17.56	1.130***	17.10
Working time decided by employer	Ref.		Ref	
Flexible working hours	0.065	0.91	0.099	1.29
Office working hours	0.138**	2.28	0.166***	2.57
Rotating shifts	-0.089	1.58	-0.078	1.27
Employer offers no training	Ref.		Ref	
Training 1 to 3 months	0.191***	3.27	0.151***	7.42
Training 1 to 10 days	0.139***	2.63	0.096***	5.02
Job in fixed team	Ref.		Ref	
Job not in teamwork	-0.109**	2.18	-0.115**	2.19
Job in varying teamwork	-0.127**	2.56	-0.140***	2.70
No one controls your work	Ref.		Ref	
Job has a fixed routine	-0.148***	2.79	-0.138**	2.30
Can choose order tasks	0.063	1.10	-0.079	1.25
Never working at high speed	Ref.		Ref	
Often high speed	-0.242***	4.32	-0.227***	3.83
Sometimes high speed	-0.045	0.69	-0.064	0.93
Never working with tight dead	Ref.		Ref	
Often tight deadlines	-0.251***	4.15	-0.274***	4.33
Sometimes tight deadlines	-0.074	1.21	-0.087	1.37
Firm has no early retirement plan	Ref.		Ref	
Have to stop before 65	0.192**	2.32	0.214**	2.38
Early retirement 55	0.161**	2.43	0.149**	2.09
Early retirement 60	0.124*	1.76	0.122	1.58
Loyalty-No-shirking	0.024	0.56	0.027	0.61
Constant	-1.844***	2.66	-1.844***	4.46
Number of Observations	1793			
Number of Groups	360			

Note: The random effects models also include variables measuring current wage, weekly work hours, gender, age, age squared, level of education and dummies for country specific effects. The coefficient is significant at: *** 1%, **5%: and * 10% level.

Table A2: COLS models of decision utility in for-profit sector

	Random effects		Fixed effects	
	Coeff.	**t-value**	**Coeff.**	**t-value**
Temporary contract to unemployment	Ref.		Ref.	
Permanent contract with no risk of dismissal	0.402***	13.57	0.417***	13.46
Permanent contract with risk but compensation.	0.262***	8.53	0.261***	7.95
Permanent contract with risk and no compensation	0.064**	2.05	0.103***	3.05
Temporary contract to permanent contract	0.231***	7.48	0.227***	6.64
Temporary contract to temporary contract	0.288***	11.17	0.287***	10.46
Working hours	0.047***	7.66	0.061***	8.52
Working hours squared	-0.0008***	9.71	-0.001***	10.34
Wages	1.173***	55.34	1.176***	53.84
Working time decided by employer	Ref.		Ref.	
Flexible working hours	0.141***	5.94	0.155***	6.04
Office working hours	0.103***	5.08	0.129***	5.90
Rotating shifts	-0.065***	3.37	-0.062***	3.07
Employer offers no training	Ref.		Ref.	
Training 1 to 3 months	0.116***	6.17	0.151***	7.42
Training 1 to 10 days	0.064***	3.73	0.096***	5.02
Job in fixed team	Ref.		Ref.	
Job not in teamwork	0.034**	2.01	0.045**	2.51
Job in varying teamwork	0.008	0.48	0.006	0.35
No one controls your work	Ref.		Ref.	
Job has a fixed routine	-0.116***	6.61	-0.087***	4.42
Can choose order tasks	0.053***	2.83	0.072***	3.48
Never working at high speed	Ref.		Ref.	
Often high speed	-0.162***	8.75	-0.169***	8.67
Sometimes high speed	0.002	0.10	-0.012	0.53
Never working with tight dead	Ref.		Ref.	
Often tight deadlines	-0.110***	5.35	-0.141***	6.53
Sometimes tight deadlines	-0.028	1.41	-0.030	1.43
Firm has no early retirement plan	Ref.		Ref.	
Have to stop before 65	0.072***	2.57	0.064**	2.07
Early retirement 55	0.214***	9.51	0.205***	8.49
Early retirement 60	0.194***	8.39	0.191***	7.56
Loyalty-No-shirking	0.120***	8.30	0.126***	8.41
Constant	-0.945***	4.38	-1.459***	10.71
Number of Observations	16781			
Number of Groups	3384			

Note: The fixed effects models also include variables measuring current wage, weekly work hours, gender, age, age squared, level of education and dummies for country specific effects. The coefficient is significant at: *** 1%, **5%: and * 10% level.