DOES THE WORKPLACE SUSTAIN PROSOCIAL MOTIVATION? EVIDENCE FROM SOCIAL AND FOR-PROFIT ENTERPRISES

Olivier Brolis, Esmeralda Gerritse, Marthe Nyssens and William Parienté

LIDAM Discussion Paper IRES
2026 / 22



UCLouvain

LIDAM
IRES | Louvain Institute of Data Analysis and Modeling in economics and statistics

Does the Workplace Sustain Prosocial Motivation? Evidence from Social and For-Profit Enterprises

Olivier Brolis, Esmeralda Gerritse, Marthe Nyssens
and William Parienté*

Abstract

Prosocial motivation has been shown to matter for the behaviour of individuals, whether donations or work effort. Previous studies also indicate that the institutional environment can have an influence on prosociality. In the labour context, however, empirical estimations are still limited. We study the effect of the workplace environment on workers' prosocial motivation in social and for-profit firms. Using longitudinal data from hand collected surveys submitted to Belgian workers in the housework service industry, we estimate the change in motivation through a doubly robust difference-in-difference design. Our results show that workers in social enterprises kept higher levels of prosocial motivation over time. Analysing data on perceived workplace characteristics, we suggest that this effect could be partly explained by the higher opportunities to participate in decision-making.

Keywords: Prosocial motivation, Social enterprises, Workplace organisation

JEL Codes: D23, D64, L31

*Brolis: Interdisciplinary Research Centre on Work State and Society, UCLouvain, Belgium (email: olivier.brolis@uclouvain.be); Gerritse: Interdisciplinary Research Centre on Work State and Society and Institute of Economic and Social Research - Louvain Institute of Data Analysis and Modeling in economics and statistics, UCLouvain, Belgium (gerritse.esmeralda@uclouvain.be); Nyssens: Interdisciplinary Research Centre on Work State and Society and Institute of Economic and Social Research - Louvain Institute of Data Analysis and Modeling in economics and statistics, UCLouvain, Belgium (merthe.nyssens@uclouvain.be); Parienté: Institute of Economic and Social Research - Louvain Institute of Data Analysis and Modeling in economics and statistics, UCLouvain, Belgium and M.I.T. Jameel Poverty Action Lab, Cambridge, MA, USA (william.pariente@uclouvain.be).

1 Introduction

A growing literature has been focusing on the importance of prosocial motivation (i.e. the desire to exert effort to benefit others) in the labour context. Evidence suggests that non-pecuniary aspects of motivation matter (Bowles, 1998; Cassar and Meier, 2018) and that workers care about the social impact of their jobs (Francois, 2007), which in turn affects the level of effort that they exert (Banuri and Keefer, 2016a). In particular, attention has been paid to the implications in terms of selection of workers, incentive structure and organisational design (for thorough reviews see Besley and Ghatak, 2018, Fehr and Charness, 2025). Two main mechanisms are put forward in the literature for the presence of prosocially motivated workers in organisations: an attraction-selection phenomenon and the exposure over time to the institutional setting. Most of the studies have concentrated on the first mechanism and empirical estimations of the latter are scarce, especially because of the difficulty to isolate the effect.

In our paper, we estimate the change over time of the prosocial motivation of workers employed in social enterprises[1] (SEs) and for-profit organisations (FPOs) and further explore the potential workplace environment mechanisms. To isolate the exposure effect, we exploit a sector where the attraction-selection phenomenon is absent and the tasks of the job are standardised which is the housework service industry. In this sector in Belgium workers are mostly unaware of the different organisational forms, while, on the enterprise side, wages are close to the minimum and do not have margins to be decreased. We are thus able to compare workers in the same industry and performing the same jobs who are comparable in terms of level of motivation at entry but are exposed to different workplace organisations during their employment experience. We therefore submitted questionnaires to new entrant workers in the French part of Belgium at the beginning of their contract and few months later and employ a doubly robust difference-in-difference methodology to account for any differences in the groups and time-invariant unobserved heterogeneity.

Our results indicate that workers in social enterprises maintained higher levels of prosocial motivation over time with respect to workers entering for-profit firms. We find that while workers' prosocial motivation decreased in FPOs, it remained quite stable for workers in SEs, with an estimated difference of 0.64 points on a scale of seven. We then further explore the potential channels through which the workplace environment could affect workers' prosocial motivation. Based on the literature, we investigate three mechanisms: the relationships with

[1]We define social enterprises all not-for-profit organisations that combine an entrepreneurial dynamic to provide goods or services with the primacy of social aims and which have some form of limitation in their profit sharing.

SE stakeholders, the participation in decision-making and the perceived positive impact. To measure the first, we use the relationship with supervisors, with colleagues and the autonomy at work. We measure participative governance as an index of different forms of workers' participation. For the third mechanism, we proxy the perceived impact by the frequency of meetings with vulnerable users. Using data collected after eight months on the perceived workplace environment, we find that workers in SEs report foremost more possibilities to participate in the decision-making processes inside the firm compared to workers in FPOs. To a lower extend, they also perceive a better relationship with the supervisors and more autonomy at work.

This paper therefore contributes to the literature on prosocial motivation in the labour context by isolating and estimating the effect of the institutional setting. While previous work analysed the level of employees' prosocial motivation in not-for-profit and for-profit enterprises (De Cooman et al., 2011; Banuri and Keefer, 2016b) and the role of prosocial values in the attraction to social enterprises (Crucke and Bockaert, 2023), to the best of our knowledge, our study is the first to estimate the change over time. This research is closely related to the study of Gregg et al. (2011) who investigate the institutional context using a public panel survey on declared unpaid overtime work in the non-profit (public and not-for-profit sector) vs private sector. However, in this paper we are able to estimate the effect using a direct self-reported measure of prosocial motivation, ask workers at the same moment of their working contract and further identify the effect specific to social enterprises.

Numerous studies have been interested in understanding the prosocial motivation on the workplace. The presence of prosocially motivated workers in organisations has mostly been explained through an attraction-selection phenomenon, according to which workers look for an organisation that shares their own values and goals (Besley and Ghatak, 2005), and enterprises try to select workers who have values and motivations that fit their mission. Supporting evidence for this process has been provided from the field and the lab for the public, for-profit and not-for-profit sector (Ashraf et al., 2020; Non et al., 2022; Serra et al., 2011; Fehrler and Kosfeld, 2014; De Cooman et al., 2011; Deserranno, 2019; Winter and Thaler, 2015; Crucke and Bockaert, 2023). This also applies to SEs, which combine a private status with a social mission. Enterprises with a social mission are more likely to support values and goals that meet workers' expectations (Besley and Ghatak, 2017a, 2005). Moreover, the limitation of profit distribution in SEs may work as a signal of confidence for workers, as the limitation in the distribution of profits ensures that the efforts will increase the quality/quantity of the good or service and not be converted into profit for the owner(s) (Roomkin and Weisbrod, 1999; Glaeser and Shleifer, 2001; Francois, 2003). On

the enterprise side, beyond selection processes and procedures, SEs might offer lower wages to attract only those workers who best match the organisation's mission (Handy and Katz, 1998; Delfgaauw and Dur, 2007), in line with the labour donation theory (Preston, 1989). Therefore, beyond cost-effectiveness, paying lower wages can act as a screening mechanism and increases SE output by generating a negative adverse selection mechanism.

The other mechanism explaining the level of workers' prosocial motivation in organisations is the effect of the workplace environment. Enterprises try to ensure that their workers adopt behaviour that is consistent with their mission by encouraging their efforts through an incentives structure (Francois, 2000). There exists extensive evidence on the relation between incentives and prosocial behaviour (Mellstrom and Johannesson, 2008;Fiorillo, 2011; Bergantino et al., 2023; Lacetera and Macis, 2010; Graf et al., 2023; Barile et al., 2015; Dannenberg and Martinsson, 2021) with some lab experiments simulating labour contexts or tasks (Andersson et al., 2017; Drouvelis and Marx, 2018; Grosch et al., 2022; Cassar and Meier, 2021). The overall picture emerging is a behavioural response greater for non-monetary rewards (e.g. symbolic prices) than monetary incentives which in some cases even lead to crowding out effects. Although it has mostly been measured as change in effort, it has been discussed how motivation is responsive to the environment and that the underlying level of altruism can also change (Besley and Ghatak, 2017b; Ashraf and Bandiera, 2017). Few studies further look at the level of tenure to proxy for the exposure effect (Banuri and Keefer, 2016b; Buurman et al., 2012). Yet, empirical evidence on the evolution of prosocial motivation on the workplace is scarce and lab experiments cannot replicate the daily workplace context. The only study looking at individual changes is the one by Gregg et al. (2011). The authors using declared unpaid overtime work of workers switching sector measure the exposure effect on prosocial behaviour in the private sector versus a general non-profit sector (public sector and not-for-profit). They find no evidence of adjustment and interpret this as indicating the absence of an exposure effect.

SEs implement a specific workplace environment in that they rely more on implicit incentives than the private for-profit sector (Austin et al., 2006; Devaro and Brookshire, 2007; Borzaga and Tortia, 2006) and different workplace policies than the public sector. Implicit incentives are not explicitly and contractually defined; rather, they are perceived as 'relational contracts' or 'psychological contracts' (e.g. Rousseau, 1995) and are based on trust in receiving some kind of reward for the effort made. Explicit incentives, instead, refer to an enforceable contract that defines the conditions under which a reward is provided. In addition to wage and monetary bonuses, promotion and even threat of dismissal can be used as explicit incentives. However, extrinsic incentives might crowd out prosocial motivation

(Deci, 1971; Frey and Jegen, 2001; Bénabou and Tirole, 2006; Bowles, 2008; Bowles and Polania-Reyes, 2012). Moreover, SEs also implement more participatory policies in decision-making than public workplaces.

Three specificities of the SE work environment can potentially affect the prosocial motivation of workers: the type of relationships between the SE's stakeholders, characterized by a mutual trust that everyone shares similar values and goals (Mosca et al., 2007), the democratic participative governance implemented through the direct or indirect and formal or informal participation of various stakeholders (users, workers, donors, etc.) (Defourny and Nyssens, 2017; Defourny et al., 2020), and the perception that their actions have a positive impact on beneficiaries (Grant, 2007). Trust-based relationships foster workers' prosocial motivation as the more a worker produces efforts, the more s/he earns, not only—as observed in all types of enterprises—the approbation of his/her superiors but in the case of SEs, also the social recognition and esteem of his/her colleagues and of the enterprise's users (Speckbacher, 2013). In addition, a trust-based relationship might also imply more autonomy at work, as less autonomy implies a higher degree of control, which might reduce the workers' feeling that they are in a trust-based relationship with their organization (Ploner, 2007). To measure this mechanism, we use the quality of the relation with the supervisor, of the relation with colleagues and the degree of autonomy at work. Secondly, compared to FPOs, SEs are more likely to implement work processes, such as leadership or task rotation, and structures that promote worker participation in the enterprise (Mastracci and Herring, 2010). This favors a good fit between the social mission of the organisation and workers' values in the long run (Lee and Bang, 2012). Having a voice in the firm can also influence the effort exerted by the workers (Mellizo et al., 2014). To measure this mechanism, we use questions issued from the European Survey on Working Conditions. Lastly, the broader workplace context has an influence on the way an employee experiences their job, and the frequency of the contact with beneficiaries also matters for the perception of an impact. The organisation can promote this contact. Regular contacts with beneficiaries allow workers to feel that their work is appreciated, which in turn sustains and develops their prosocial motivation and their willingness to make more effort (Grant, 2007). We therefore proxy the third mechanism by the frequency of meetings with vulnerable users.

The rest of the paper is structured as follows. In Section 2 the institutional context and data collection process are presented. Section 3 discusses the methodological aspects. Section 4 shows the workplace exposure results and Section 5 the workplace environment mechanisms. Section 6 is devoted to the robustness checks and Section 7 provides concluding remarks for further discussion.

2 The Institutional Context and Data

2.1 The Belgian Quasi-market of Housework Services

The housework service industry in Belgium can be characterized as a quasi-market. Even though the state regulates the market, participation is open. Demand is channeled through a 'voucher', which corresponds to a given price. These vouchers are bought by consumers, who then choose an accredited firm that sends a worker to the customer's home. Workers are therefore hired by the providers and not directly by households, which are clients of the providers. The state reimburses the value of the vouchers to the provider and pays an additional subsidy per voucher in order to cover the costs of social insurance, administration, training and supervision. Services could include cleaning, ironing, washing, little sewing jobs and preparing meals. This quasi-market offers a unique context through which to study the workplace exposure effect, because even though the state contributes towards the cost of the services, the provision of these services is open to all kinds of organisations. A variety of for-profit and non-profit providers (both public and SEs) compete on this market, which is composed of 50 percent of FPOs and 15 percent of SEs.[2] Hence, this empirical field allows us to compare the evolution of prosocial motivation in SEs and FPOs for workers in the same industry performing exactly the same job.

To distinguish between for-profit and SE providers, we rely on the organisation's legal status: providers with a legal status that does not constrain profit distribution are considered to pursue a mission of profit maximization, while the others are expected to pursue a social mission. In our sample, social enterprises included both associations and social cooperatives.[3]

2.2 Data Collection

For the data collection, all private enterprises in the housework service industry in the regions of Brussels and Wallonia were contacted to participate to the study by email or phone. Of those contacted, 20 social enterprises and 17 for-profit firms accepted, for a total of 37 enterprises, which included 54 establishments. A questionnaire was then agreed to be given to all new workers hired on their first day of work for a period of one year. The worker was

[2]Public organisations and individuals also operate in this quasi-market, composing respectively 21.5 and 13.5 percent of the total. However, they were not taken into account in the context of this study as the objective was to compare private not-for-profit and for-profit organisations.

[3]In this industry, there are two types of SEs with different social missions: work-integration social enterprises (WISEs) and home-care service organisations (HCSOs). Accredited WISEs are social cooperatives that aim to create temporary or long-term jobs for the most disadvantaged workers (worker-oriented mission), while accredited HCSOs are non-profit organisations that focus on serving vulnerable families and elderly people (client-oriented mission).

given the questionnaire by the employer and had to send it after completion to the research institute by mail.[4] The workers were then asked by their employer to refill a questionnaire eight months later with the same procedure. The questionnaire at baseline included questions about work motivations, person-organisation fit, socio-demographic characteristics, working experience and previous status on the labour market. Additional questions about their work environment and job characteristics were added to the endline survey.

The final sample included 211 workers, 136 employed in SEs and 75 in FPOs. A total of 169 workers then answered the endline survey. Of those, 158 provided complete individual and area-level information, distributed 100 in SEs and 58 in FPOs.[5] As the attrition rate was not negligible, we tested for the groups' composition and comparability. Results show that attrition did not impact either group composition or comparability, which we show in detail in the robustness checks section.

2.3 Descriptive Statistics

The characteristics of the sample at baseline are presented in Table 1. The average prosocial motivation level was not different across the two groups. To build our outcome measure, workers' prosocial motivation, the scale proposed by Grant (2008) and previously validated for psychological research was used. This measure consists of three items ('I want to help others through my work', 'I care about benefiting others through my work' and 'I want to have positive impact on others'), about which workers indicated their agreement (or disagreement) based on a seven-point Likert scale ranging from 'do not agree at all' to 'totally agree'. Cronbach's alpha (α) was 0.86 for the 3-item scale. To verify the similarity in the distribution of the variable in the two groups of workers, we computed the Wilcoxon-Mann-Whitney test. The test assesses the null hypothesis that the two samples of workers are coming from populations with the same distribution. The reported p-value for the test was 0.490, indicating that we could not reject the null hypothesis. Therefore, the two distributions can be considered not statistically different. This further suggests that the (self-)selection of workers based on their prosocial motivation at baseline was very low or absent.

[4]New entrants were considered as all workers who started a new contract in the organisation; they could come either from an unemployment period or from a previous job. In our sample, three workers (all in FPOs) had already worked in that organisation in the past; when we repeat the estimations excluding these observations, results do not change.

[5]In total 215 workers answered the questionnaire at baseline, but 4 questionnaires were incomplete on the variable of interest and therefore not included in the sample. Of the 169 responses at endline, 105 in SEs and 64 in FPOs were complete on the variable of interest.

Table 1: Descriptive statistics of the sample at baseline.

	SE		FPO		Difference		Standar.
	Mean	St.Dev	Mean	St.Dev	Mean	P-value	bias
Variable of interest							
Prosocial motivation	5.894	1.094	5.789	1.049	0.104	0.558	0.10
Individual characteristics							
Age	33.455	9.351	33.157	9.810	0.297	0.851	0.03
Secondary education (%)	0.425	0.496	0.491	0.504	-0.065	0.430	-0.13
Foreign origin (%)	0.099	0.300	0.263	0.444	-0.164	0.006	-0.55
In couple (%)	0.574	0.496	0.438	0.500	0.135	0.102	0.27
With children	0.752	0.433	0.614	0.491	0.138	0.068	0.32
Previously unemployed (%)	0.752	0.433	0.578	0.498	0.173	0.024	0.40
Sent by public agency (%)	0.277	0.449	0.157	0.367	0.119	0.090	0.27
Experience in sector (%)	0.277	0.449	0.473	0.503	-0.196	0.013	-0.44
Area characteristics							
Urban area (%)	0.247	0.433	0.456	0.502	-0.208	0.007	-0.48
Area high unemployment (%)	0.534	0.501	0.368	0.486	0.166	0.045	0.33

Notes: N=158, 57 in FPOs and 101 in SEs. All observations are at baseline. A t-test was performed on the mean difference between SEs and FPOs. Standardized bias is calculated as the mean difference divided by the standard deviation of the treated group. Foreign origin and Sent by public agency are dummies indicating respectively if the worker is from a country located outside the EU-15 and whether the worker found the job through a public organisation. Urban area and Area high unemployment are dummies indicating respectively if the firm is located in an area with more than 50,000 inhabitants and whether the area has an unemployment rate higher than the Wallonia average.

Regarding the composition of the groups, the average age of the workers was 33 years and the majority had not completed a secondary education. Almost all workers were women (as therefore the variation is very little for this variable, it has not been added to the model).[6] The origin was then foreign for 10 percent of the workers in SEs, while 26 percent in FPOs. More workers were in a couple in SEs, 57 percent versus 43 percent in FPOs, and in 75 percent of the cases workers had children, against 43 percent in FPOs. Concerning the job market status, 75 percent of the workers entering a SE was previously unemployed and 27 percent had been sent by a public placement agency (either the regional unemployment agency or the communal agency for social assistance). Moreover, 27 percent were coming from jobs in another industry. The values for FPOs were respectively 57 percent, 15 percent and 47 percent. On the characteristics of the location of the enterprise, workers starting a new job in SEs were more likely to operating in the countryside, with only 25 operating in and urban context. Workers in FPOs were active in an urban setting in 45 percent of the cases. These latter were also less active in areas with high unemployment levels, which

[6]In the sample, only 2 percent of workers were male, therefore the variable gender was not included in the model. When included, results do not change.

represented 53 percent of the workers for the former and 37 percent for the latter.

To account for some imbalances found in terms of the individual and area characteristics, we apply a weighting by the probability of entering a SE in our empirical approach. Once the sample is weighted, all differences in characteristics across the groups disappear except for the presence in urban areas and a slight difference in previous experience. The descriptive table for the weighted sample is given in Table 7 in the Appendix.

3 The Identification Strategy

To identify the workplace organisation effect on the evolution of workers' prosocial motivation, we adopt the doubly robust difference-in-difference (DRDID) estimation model proposed by Sant'Anna and Zhao (2020). The exposure to the SE workplace is our treatment. The DRDID then estimates the treatment effect by comparing the change in workers' prosocial motivation in SEs and the predicted change for workers in FPOs with the same characteristics, weighted by the probability of being treated.

The DID treatment effect τ conditional on covariates is given by

$$\hat{\tau} = E_n[Y_1 - Y_0|D = 1, X] - E_n[Y_1 - Y_0|D = 0, X] \tag{1}$$

where D indicates the treatment variable, Y_t the outcome of interest at time t, with t=0,1, and X the vector of covariates.

The DRDID then combines the DID framework using the ordinary least squares regression (OR) with an inverse probability weighting (IPW) approach. The method therefore predicts the counterfactual evolution through regression estimation on the control group and then weights the difference in the outcomes by the probability of treatment. In equation terms, the treatment effect τ is estimated as

$$\hat{\tau} = E_n[(\hat{w}_1(D) - \hat{w}_0(D, X; \hat{\gamma}))(Y - \mu_{(0,\Delta)}(X; \hat{\beta}_{0,0}, \hat{\beta}_{0,1}))] \tag{2}$$

where $\Delta Y = Y_1 - Y_0$ is the change in Y observed in the treated group and $\mu_{d,t}(X; \beta^*_{d,t})$ gives the outcome regression model estimated on the control group. $\mu_{0,\Delta}(X; \beta_0, \beta_1)$ is estimated as $\mu_{0,1}(X; \beta_1) - \mu_{0,0}(X; \beta_0)$, meaning the counterfactual change estimated on the control group given the characteristics. The weights are given by $\hat{w}_1(D) = \frac{D}{E[D]}$ and $\hat{w}_0(D, X; \gamma) = \frac{\frac{\pi(X;\gamma)(1-D)}{1-\pi(X;\gamma)}}{E[\frac{\pi(X;\gamma)(1-D)}{1-\pi(X;\gamma)}]}$. The $\pi(x, \gamma^*)$ is a parametric model for the unknown propensity

score p(x). In our case, a logit regression model of the treatment variable on the covariates. The propensity score, therefore, gives the probability of a worker to be treated, given his characteristics. If either the regression model or the inverse probability weighting is correctly specified, we can retrieve the true average treatment effect on the treated (ATT). This causal framework allows us to consider any difference over time in terms of prosocial motivation between SE and FPO workers as an effect of their exposure to a specific work environment.

DID designs require the parallel trends assumption to hold, which, in setups where the distribution of covariates varies across groups, is conditioned on observed pre-treatment covariates. It states that, in absence of the treatment, the change over time the individuals in the treated group would have experienced is the same as the change in outcomes of the individuals in the untreated group, given the observed pre-treatment covariates. In our setting, we do not have the trends in motivation prior to treatment. However, we argue that in the housework-services jobs, the attraction and selection of workers into a specific type of enterprise is (almost) absent. First, information asymmetries exist between workers and employers (Defourny et al. (2010)). Thus, the more prosocially motivated workers are not specifically attracted to SEs. In our survey, when asked about the reasons for applying to a particular enterprise, workers answered because of coming across the organisations' offices or because of a previous training experience. Moreover, reasons given for changing the organisation were the closure of the previous enterprise, the lack of payment, the end of the contract and the willingness to increase the number of hours. The previous organisation was also, in most cases, an FPO, as it has a majoritarian presence in the market. Second, on the enterprises side, the negative adverse selection mechanism used by SEs is not applicable in this job (see Handy and Katz, 1998). Given the usually low pay, often close to the minimum allowed, workers in low-skilled jobs do not have the necessary margins to give up a significant portion of their wages to express their prosocial motivation, as predicted by the labour donation theory (Preston, 1989). These factors together indicate that the mechanisms allowing SEs to attract and select the most prosocially motivated workers were not present in this quasi-market. Therefore, it seems reasonable to assume that, conditional on the observable characteristics of the workers, the change over time in the two groups of workers would have followed the same trend.

The DRDID model further requires an overlap condition. This states that at least a small fraction of the population is treated and that for every value of the covariates there is at least a small probability that the unit is not treated. We presented the balance in the covariates for the two groups in Table 1. For each category of the covariates, we have at least a small fraction of the workers in the untreated group.

4 Workplace Exposure

4.1 Weighting of the Sample

Through the DRDID design, we weighted the workers in the control group by the probability of entering a SE firm given the characteristics of the treated group. With the weighting applied, the difference in characteristics between the two groups disappears for all variables except for the level of urbanization of the area.[7] A slight difference also persists in the previous experience in the sector. The balance in characteristics for the weighted sample is given in Table 7 in the Appendix.

4.2 Exposure Estimation

We estimate the workplace exposure effect on workers' prosocial motivation in SEs and in FPOs first through a simple DID specification and then by applying the doubly robust DID estimation. The treatment effect is the exposure to the SE workplace organisation. This is estimated as the difference in the evolution over time in the DID specification. In the DRDID model, this difference is then weighted by the probability of being treated. The results of the estimations are given in Table 8. In both specifications, we find a positive difference in the change in prosocial motivation. When the DRDID is applied, we find that the weighted difference in the evolution of workers' prosocial motivation was 0.642 points on a scale of seven. Prosocial motivation decreased by 0.866 points on a scale of seven for workers in FPOs over the months of study, while it kept quite stable levels for workers in SEs. This would suggest that the workplace environment in SEs allowed the workers entering these firms to maintain higher levels of prosocial behaviour over time with respect to workers entering FPO environments. These results found are in contrast with the previous study by Gregg et al. (2011). The authors did not find differential effects in unpaid overtime for workers switching between the non-profit (public plus not-for-profit) sector and for-profit private sector. However, the direct measure of prosocial motivation might account for this difference. We also look at all workers entering a new organisation and not only switchers and isolate the effect on the not-for-profit sector.

[7] However, when we recompute estimations excluding workers in the ten percent most and least urbanized cities results remained qualitatively the same.

Table 2: Workplace exposure effect on workers' prosocial motivation.

	DID		DRDID	
	(1)	(2)	(3)	(4)
Treatment effect	0.383*	0.374	0.516**	0.642**
	(0.231)	(0.233)	(0.234)	(0.255)
Mean change FPO	-0.660	-0.660	-0.866	-0.855
	(1.187)	(1.187)	(1.030)	(1.068)
Individual controls	Yes	Yes	Yes	Yes
Area controls	No	Yes	No	Yes
Observations	320	316	320	316
N respondents	160	158	160	158

Notes: Individual controls include age, education, being in couple, having children, being previously unemployed, sent by a public agency and experience in the sector. Area controls include if area was urban and if area had high unemployment rates. For the mean change, the standard deviation is given in brackets. Standard errors are clustered by establishment and are given in brackets.

5 The Workplace Organisation

We then explored the mechanisms that could account for the exposure effect to the workplace environment. Based on the literature, we proposed three potential mechanisms that could favour the prosocial motivation of workers: trust-based relationships, democratic participative governance and the feeling that workers' actions have a positive impact on beneficiaries. However, we cannot rule out that other mechanisms are also present or the possibility that there are intermediating variables at work.

To analyse the presence of these factors, we built five measures. For the first mechanism, the trust-based relationships, we use the quality of one's relationship with their supervisor (Barnett and Brennan, 1995; five items, $\alpha = 0.96$), the quality of relationships with colleagues (Morgeson and Humphrey, 2006; three items, $\alpha = 0.90$) and a validated psychological scale to measure autonomy at work (Parker, 2003; five items, $\alpha = 0.87$). Second, we measure the participative governance in SEs through a six-item scale from the European Survey on Working Conditions questionnaire about worker participation (2010; $\alpha = 0.95$). Lastly, we proxy the perception of a positive impact by the frequency of meetings with vulnerable users (elderly or disabled persons). All the questions were based on a seven-point Likert scale.

For each measure built, we estimate an OLS weighted regression model on our complete set of covariates. The weights are the probability of entering a SE firm and are obtained

Table 3: Perceived workplace environment in SEs and FPOs.

	Relation with supervisor (1)	Relation with colleagues (2)	Autonomy at work (3)	Participation in decision-making (4)	Frequency vulnerable users (5)
Social Enterprise	0.642**	0.356	0.734***	2.308***	0.176
	(0.244)	(0.298)	(0.227)	(0.294)	(0.388)
Individual controls	Yes	Yes	Yes	Yes	Yes
Area controls	Yes	Yes	Yes	Yes	Yes
Mean FPO	4.955	5.058	4.564	2.635	5.079
	(1.333)	(1.356)	(1.195)	(1.817)	(1.356)
R-squared	0.239	0.205	0.174	0.501	0.185
N respondents	152	152	152	152	90

Notes: Coefficients are estimated using OLS regression weighted by inverse probability weights calculated with the DRDID method. Individual controls include age, education, being in couple, having children, being previously unemployed, being sent by a public agency and having experience in the sector. Area controls include whether the area was urban and whether the area had high unemployment rates. For the mean change, the standard deviation is given in brackets. Standard errors are clustered by establishment and are given in brackets.

through the doubly robust DID. Table 3 presents the results. They indicate that in SEs, workers perceived more opportunities to give advice and to participate in the decision-making processes of their enterprise. The difference is of 2.3 points on a scale of seven. The high difference is also due to the very low participation possibilities perceived in for-profit firms. With a smaller difference, workers also reported having a better relationship with their supervisors and more autonomy at work, with the values being higher in SEs of respectively 0.64 and 0.73 points on a scale of seven. These SE specificities might (partially) account for the observed exposure effect.

To further investigate the participatory policies mechanism, we check whether, as proposed by the literature, the implementation of structures that promote worker participation favors a good fit between the social mission of the organisation and workers' values in the long run. We therefore recompute the model specification on workers' perceived congruence in values with the enterprise (defined as 'My values are close to those of the enterprise'). Table 4 shows the results. They indicate that workers in SEs kept their perceived value congruence over time more than in FPOs. The value decreased over time for the latter, while it stayed stable for the former, for a difference of 0.69 points on a scale of seven. This can suggest that the higher implication in decision-making in social enterprises keeps the values of the workers more aligned with the social mission of the organisation.

Table 4: Workplace exposure effect on workers' perceived value congruence.

	DID		DRDID	
	(1)	(2)	(3)	(4)
Treatment effect	0.787***	0.788***	0.760**	0.697*
	(0.250)	(0.253)	(0.343)	(0.394)
Individual controls	Yes	Yes	Yes	Yes
Area controls	No	Yes	No	Yes
Mean change FPO	-0.767	-0.767	-0.756	-0.681
	(1.819)	(1.819)	(1.712)	(1.634)
Observations	316	312	316	312
N respondents	158	156	158	156

Notes: Individual controls include age, education, being in couple, having children, being previously unemployed, sent by a public agency and experience in the sector. Area controls include if area was urban and if area had high unemployment rates. For the mean change, the standard deviation is given in brackets. Standard errors are clustered by establishment and are given in brackets.

6 Robustness

6.1 Sample Attrition

A potential threat to the integrity of our empirical analysis was the attrition between the workers observed in the first period and at endline. In our study, of the 212 workers in the final sample, only 169 workers participated in the second phase of the study. This corresponds to an attrition rate of roughly 20 percent. Attrition was slightly higher in SEs, with around 22 percent of the workers, than in FPOs, where it was 17 percent of the initial sample. Workers who did not participate in the whole process had either left the organisation before the second wave of the investigation or did not complete the questionnaire in the second wave of the survey. Since the attrition rate was not negligible, we checked whether the composition of the whole sample or the groups' comparability had been affected. To evaluate the ex-post selection effect of workers, we performed a logit regression of the attrition on the variables at baseline and on the variables interacted with the SE dummy. Results are given in Table 8 of the Appendix. Attrition did not affect the sample composition or groups comparability.

6.2 Exposure Effect on Other Types of Motivation

To check whether the results were specific to this type of motivation and not due to a more general higher motivation to work, we computed the same analysis for other types of motivation. According to self-determination theory (Deci and Ryan, 1985; Ryan and Deci, 2000),

then applied to work settings (Gagné and Deci, 2005; Deci et al., 2017), we can identify two types of motivation: intrinsic and extrinsic motivation. Intrinsic motivation is defined as interest in the activity itself, while extrinsic motivation refers to the link felt between certain behaviours and their reward, whether a tangible reward or an implicit approval. The theory hypothesizes a continuum in the degree of autonomy of behaviours, with intrinsic motivation being inherently autonomous and extrinsic motivation having different degrees of autonomy based on the link with the reward. On the one extreme, closer to the intrinsic motivation, locates the integrated motivation, where individuals assimilate the identification with the value of their work roles, while on the other side of the continuum is the external motivation, for which behaviour is controlled by the contingent reward or threat. In this continuum, in the past, prosocial motivation was confounded with intrinsic motivation. More recently, it has been theorized to be not purely intrinsic but rather moved towards an integrated type of motivation (Ryan and Deci, 2000) where employees work towards congruent values and personally meaningful outcomes (Grant, 2007).

Table 5: Workplace exposure effect on other types of motivation.

	Intrinsic motivation		Extrinsic motivation			
			Integrated		External	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment effect	-0.009	0.050	0.031	0.309	-0.241	-0.262
	(0.361)	(0.366)	(0.287)	(0.352)	(0.302)	(0.354)
Mean change FPO	-0.629	-0.579	-0.161	-0.241	0.485	0.421
	(1.535)	(1.532)	(1.349)	(1.339)	(1.502)	(1.460)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Area controls	No	Yes	No	Yes	No	Yes
Observations	320	316	314	310	320	316
N respondents	160	158	157	155	160	158

Notes: The coefficients give the DRDID estimations. Individual controls include age, education, being in couple, having children, being previously unemployed, being sent by a public agency and having experience in the sector. Area controls include whether the area was urban and whether the area had high unemployment rates. For the mean change, the standard deviation is given in brackets. Standard errors are clustered by establishment and are given in brackets.

For the estimation of the other types of motivation in the workplace, we therefore use these three values of the continuum: the intrinsic motivation and the two extremes of the extrinsic motivation, the integrated and the external motivation. All the three measures of motivation were built using three-item scales (chronobach's alpha was respectively of 0.92, 0.78 and 0.87). The items for the intrinsic motivation were 'I like doing this job', 'I like doing

housework' and 'I think this job is interesting'. For the integrated motivation, these were 'This job represents an important element of who I am', 'This job corresponds to the way I have chosen to live' and 'This job is part of my life'. For the external motivation, 'Through my work I want to gain a wage', 'My work allows me to gain money' and 'My work allows me to earn a living'. For all questions, participants had to indicate their agreement on a seven-point Likert scale. Results are shown in Table 5. We found no differential effect over time on these types of motivation.

6.3 Other Workplace Characteristics

To further check whether other workplace characteristics could have differently affected workers in SE and FPO firms, we recomputed the same weighted OLS regression specification as computed for the workplace environment variables on other characteristics of the enterprise. As other potential factors affecting the level of prosocial motivation of workers, we use the size of the enterprise and, for a subsample for which data was available, the weekly number of hours worked, the type of contract and the wage. The type of contract was specified as being permanent or temporary. The wage was specified as hourly wage. The size of the firm was taken from administrative data, while the other measures were built from the questionnaire at endline. These questions were however completed only by a part of workers and have therefore to be taken with precaution. However, we have no reasons to believe that they would have been filled up differently for the two groups. Results for each of these factors are given in Table 6. They show no average difference for any of these characteristics. The job in terms of hours worked and pay seems similar across groups, with an average of 19 hours per week and a salary of 10 euros per hour. The size was quite heterogeneous inside the groups, compromising both small firms and bigger firms having several establishments, but on average they were similar across the two.

Table 6: Other workplace characteristics.

	Number of workers (1)	Hours worked (2)	Permanent contract (3)	Hourly wage (4)
Social Enterprise	-0.029	1.667	0.050	0.036
	(0.319)	(1.493)	(0.182)	(0.064)
Mean FPO	4.693	19.395	0.514	10.307
	(1.426)	(7.667)	(0.502)	(0.174)
Individual controls	Yes	Yes	Yes	Yes
Area controls	Yes	Yes	Yes	Yes
R-squared	0.234	0.333	0.350	0.349
N respondents	158	73	78	56

Notes: Coefficients are estimated using OLS regression weighted by inverse probability weights calculated with the DRDID method. Number of workers is in log. Individual controls include age, education, being in couple, having children, being previously unemployed, being sent by a public agency and having experience in the sector. Area controls include if area was urban and had high unemployment rates. For the mean change, the standard deviation is given in brackets. Standard errors are clustered by establishment and are given in brackets.

7 Conclusions

Prosocial motivation has been receiving increasing attention in different contexts, from donations to work. In the labour setting, beyond the attraction-selection effect, an exposure effect has been put forward according to which the institutional setting can affect the prosocial behaviour of workers. However, empirical evidence is scarce. The only study on the institutional exposure using panel data is the one of Gregg et al. (2011), who however use an indirect measure of unpaid overtime work and focus on the public plus not-for-profit sector versus for-profit sector. We contribute to the literature in that we provide the first estimation using a direct measure of the change in workers' prosocial motivation over time in social enterprises, which are private organisations with a social mission, versus for-profit firms.

We identify the workplace exposure effect through the use of a hand collected panel survey on workers in the housework service industry in Belgium. In this industry, the attraction-selection effect of different organisational forms is very low or absent and tasks are standardised. We submitted questionnaires to workers entering SEs and FPOs at the beginning of the contract and eight months after. To estimate the change over time, we then employ a doubly robust difference-in-difference estimation. Our results indicate the existence

of an exposure effect in SEs. We find that workers exposed to the SE workplace environment had maintained higher levels of prosocial motivation over time compared to workers in FPOs. The estimated difference is of 0.64 points on a scale of seven. These results contrast those of Gregg et al. (2011), who did not find difference in the exposure effect across sectors. However, the more direct type of measure and defined sector might account for the difference.

We then explore the mechanisms that could account for the exposure effect observed. From the literature, three aspects of the SE workplace have been identified as potentially affecting workers' prosocial motivation: the trust-based relationships, the participative democratic governance practices and the perception of an impact on beneficiaries. To measure the first mechanism, we use the quality of the relationship with the supervisor, of the relationship with colleagues and the degree of autonomy at work. The third, the perception of a positive impact, is proxied by frequency of meetings with vulnerable users. We find that workers report foremost a higher degree of participation in decision-making processes. Participative policies are central to the 'work factor' in SE ethics. The values supported by SEs result in the development of practices that not only aim to achieve the organisation's objectives but also foster the workers' well-being (Rothschild and Milofsky, 2006). A better relationship with managers and a higher degree of autonomy are also perceived, although to a lower extent.

Our study therefore provides a first empirical estimation of the exposure effect to the SE workplace organisation on workers' prosocial motivation. However, some limitations should be acknowledged as well as paths for future research. First, given the specific industry and relatively small sample, further studies should investigate the external validity of our results. As Fehrler and Kosfeld (2014) note, workers can self-select into different industries and type of jobs, and this process can lead to workforces that differ in their responsiveness to the prosocial missions of organisations. Second, some low degree of (self-)selection on both sides of the workers and enterprises could still be present. Despite weighting the control group to match the treated group, some slight differences in the composition persist. Third, the participation of enterprises to the survey was voluntary and only a part of the enterprises in the market accepted, which we cannot assess whether representative of the total. However, as the SE firms participating were a much higher percentage of the total, if a bias is present then our results should be conservative. Fourth, our data could suffer from a social desirability bias, since the issue of motivation at work is sensitive. However, our analyses focused on the change over time, rather than absolute levels. There is no reason to believe that the desirability bias affecting an individual's answers would be different in baseline and endline surveys. Consequently, this bias was not likely to significantly influence our results.

Appendix

Table 7: Descriptive statistics for the weighted sample at baseline.

	SE		FPO		Difference		Standar.
	Mean	St.Dev	Mean	St.Dev	Mean	P-value	bias
Variable of interest							
Prosocial motivation	5.894	1.094	6.117	0.864	-0.223	0.125	-0.20
Individual characteristics							
Age	33.455	9.351	33.558	8.879	-0.102	0.939	-0.01
Secondary education (%)	0.425	0.496	0.480	0.502	-0.054	0.454	-0.11
Foreign origin (%)	0.099	0.300	0.097	0.298	0.001	0.969	0.00
In couple (%)	0.574	0.496	0.567	0.498	0.007	0.921	0.01
With children	0.752	0.433	0.764	0.427	-0.011	0.854	-0.03
Previously unemployed (%)	0.752	0.433	0.709	0.456	0.042	0.508	0.10
Sent by public agency (%)	0.277	0.449	0.328	0.472	-0.051	0.447	-0.11
Experience in sector (%)	0.277	0.449	0.398	0.492	-0.121	0.079	-0.27
Area characteristics							
Urban area (%)	0.247	0.433	0.470	0.501	-0.222	0.001	-0.51
Area high unemployment (%)	0.534	0.501	0.560	0.499	-0.026	0.722	-0.05

Notes: N=158, 57 in FPOs and 101 in SEs. All observations are at baseline. A t-test was performed on the mean difference between SEs and FPOs. Standardized bias is calculated as the mean difference divided by the standard deviation of the treated group. Foreign origin and Sent by public agency are dummies indicating respectively if the worker is from a country located outside the EU-15 and whether the worker found the job through a public organisation. Urban area and Area high unemployment are dummies indicating respectively if the firm is located in an area with more than 50,000 inhabitants and whether the area has an unemployment rate higher than the Wallonia average.

Table 8: Attrition of full sample at baseline.

	Coefficient	St. Error
SE	1.769	3.349
Prosocial motivation	0.050	0.409
Age	-0.001	0.050
Secondary education	0.386	0.687
Foreign origin	-1.667	1.191
In couple	0.175	0.929
Having children	-0.944	0.664
Previously unemployed	-0.326	0.669
Sent by public placem. agency	-0.127	0.464
Experience in sector	-0.502	0.727
Urban area	1.411	1.094
Area high unemployment	0.529	0.868
Prosocial motivation ×SE	-0.050	0.451
Age ×SE	-0.017	0.057
Secondary education ×SE	-0.539	0.812
Foreign origin ×SE	1.351	1.461
In couple ×SE	-0.505	1.122
Having children ×SE	1.080	0.802
Previously unemployed ×SE	-0.062	0.985
Sent by public agency ×SE	0.553	0.593
Experience in sector ×SE	1.032	0.894
Urban area ×SE	-1.355	1.229
Area high unemploym. ×SE	-0.894	0.963
Constant	-2.205	2.372

Notes: Observations included are 195. Coefficients are estimated using Logit regression of the attrition variable on the prosocial motivation and covariates. Standard errors are clustered by establishment and are given in brackets.

References

Andersson, O., M. Huysentruyt, T. Miettinen, and U. Stephan (2017). "Person–Organization Fit and Incentives: A Causal Test". In: *Management Science* 63.1, pp. 1–278.

Ashraf, N. and O. Bandiera (2017). "Altruistic capital". In: *American Economic Review* 107.5, pp. 70–75.

Ashraf, N., O. Bandiera, E. Davenport, and S. S. Lee (2020). "Losing Prosociality in the Quest for Talent? Sorting, Selection, and Productivity in the Delivery of Public Services". In: *American Economic Review* 110.5, pp. 1355–1394.

Austin, J., H. Stevenson, and J. Wei-Skillern (2006). "Social and commercial entrepreneurship: same, different or both?" In: *Entrepreneurship Theory and Practice* 30, pp. 1–22.

Banuri, S. and P. Keefer (2016a). "Pro-social motivation, effort and the call to public service". In: *European Economic Review* 83, pp. 139–164.

Banuri, S. and P. Keefer (2016b). "Mellowing with tenure? Socialization increases prosocial behavior in public organizations". In: *Experiments in Organizational Economics* 19, pp. 127–140.

Barile, L., J. Cullis, and P. Jones (2015). "Will one size fit all? Incentives designed to nurture prosocial behaviour". In: *Journal of Behavioral and Experimental Economics* 57, pp. 9–16.

Barnett, R. C. and R. T. Brennan (1995). "The relationship between job experiences and psychological distress: a structural equation approach". In: *Journal of Organizational Behavior* 16.3, pp. 259–276.

Bénabou, R. and J. Tirole (2006). "Incentives and prosocial behavior". In: *American Economic Review* 96.5, pp. 1652–1678.

Bergantino, A. S., S. Gil-Gallen, and A. Morone (2023). "Do risk and competition trigger conditional cooperation? Evidence from public good experiments". In: *Annals of Public and Cooperative Economics* 94, pp. 39–73.

Besley, T. and M. Ghatak (2005). "Competition and incentives with motivated agents". In: *American Economic Review* 95.3, pp. 616–636.

Besley, T. and M. Ghatak (2017a). "Profit with purpose? A theory of social enterprise". In: *American Economic Journal: Economic Policy* 9.3, pp. 19–58.

Besley, T. and M. Ghatak (2017b). "The evolution of motivation". In: *Working Paper, London School of Economics*.

Besley, T. and M. Ghatak (2018). "Prosocial motivation and incentives". In: *Annual Review of Economics* 10, pp. 411–438.

Borzaga, C. and E. Tortia (2006). "Worker Motivations, Job Satisfaction, and Loyalty in Public and Nonprofit Social Services". In: *Nonprofit and Voluntary Sector Quarterly* 35.2, pp. 225–248.

Bowles, S. (1998). "Endogenous preferences: The cultural consequences of markets and other economic institutions". In: *Journal of Economic Literature* 36.1, pp. 75–111.

Bowles, S. (2008). "Policies designed for self-interested citizens may undermine the moral sentiments: Evidence from economic experiments". In: *Science* 320.5883, pp. 1605–1609.

Bowles, S. and S. Polania-Reyes (2012). "Economic incentives and social preferences: substitutes or complements?" In: *Journal of Economic Literature* 50.2, pp. 368–425.

Buurman, M., J. Delfgaauw, R. Dur, and S. Van den Bossche (2012). "Public sector employees: Risk averse and altruistic?" In: *Journal of Economic Behavior & Organization* 83.3, pp. 279–291.

Cassar, L. and S. Meier (2018). "Nonmonetary incentives and the implications of work as a source of meaning". In: *Journal of Economic Perspectives* 32.3, pp. 215–238.

Cassar, L. and S. Meier (2021). "Intentions for doing good matter for doing well: The negative effects of prosocial incentives". In: *The Economic Journal* 131.637, pp. 1988–2017.

Crucke, S. and H. Bockaert (2023). "Exploring the attractiveness of social enterprises to job seekers: The role of perceived value fit and prestige". In: *Annals of Public and Cooperative Economics* 94, pp. 399–422.

Dannenberg, A. and P. Martinsson (2021). "Responsibility and prosocial behavior–Experimental evidence on charitable donations by individuals and group representatives". In: *Journal of Behavioral and Experimental Economics* 90, p. 101643.

De Cooman, R., S. De Gieter, R. Pepermans, and M. Jegers (2011). "A Cross-Sector Comparison of Motivation-Related Concepts in For-Profit and Not-For-Profit Service Organizations". In: *Nonprofit and Voluntary Sector Quarterly* 40.2, pp. 296–317.

Deci, E. L. (1971). "Effects of externally mediated rewards on intrinsic motivation". In: *Journal of Personality and Social Psychology* 18.1, p. 105.

Deci, E. L., A. H. Olafsen, and R. M. Ryan (2017). "Self-determination theory in work organizations: The state of a science". In: *Annual Review of Organizational Psychology and Organizational Behavior* 4, pp. 19–43.

Deci, E. L. and R. M. Ryan (1985). "Conceptualizations of Intrinsic Motivation and Self-Determination". In: *Intrinsic Motivation and Self-Determination in Human Behavior*. Perspectives in Social Psychology. Boston, MA: Springer.

Defourny, J., A. Henry, S. Nassaut, and M. Nyssens (2010). "Does the mission of providers matter on a quasi-market? The case of the Belgian "service voucher" scheme". In: *Annals of Public and Cooperative Economics* 81.4, pp. 583–610.

Defourny, J. and M. Nyssens (2017). "Fundamentals for an international typology of social enterprise models". In: *VOLUNTAS: International Journal of Voluntary and nonprofit organizations* 28, pp. 2469–2497.

Defourny, J., M. Nyssens, and O. Brolis (2020). "Testing Social Enterprise Models Across the World: Evidence From the "International Comparative Social Enterprise Models (ICSEM) Project"". In: *Nonprofit and Voluntary Sector Quarterly* 50.2, pp. 420–440.

Delfgaauw, J. and R. Dur (2007). "Signaling and screening of workers' motivation". In: *Journal of Economic Behavior and Organization* 62.4, pp. 605–624.

Deserranno, E. (2019). "Financial incentives as signals: experimental evidence from the recruitment of village promoters in Uganda". In: *American Economic Journal: Applied Economics* 11.1, pp. 277–317.

Devaro, J. and D. Brookshire (2007). "Promotions and incentives in NPO and FPO". In: *Industrial and Labor Relations Review* 60.3, pp. 311–339.

Drouvelis, M. and B. M. Marx (2018). "Prosociality spillovers of working with others". In: *Journal of Economic Behavior & Organization* 155, pp. 205–216.

Fehr, E. and G. Charness (2025). "Social Preferences: Fundamental Characteristics and Economic Consequences". In: *Journal of Economic Literature* 63.2, 440–514.

Fehrler, S. and M. Kosfeld (2014). "Pro-social missions and worker motivation: An experimental study". In: *Journal of Economic Behavior & Organization* 100, pp. 99–110.

Fiorillo, D. (2011). "Do monetary rewards crowd out the intrinsic motivation of volunteers? Some empirical evidence for Italian volunteers". In: *Annals of Public and Cooperative Economics* 82, pp. 139–165.

Francois, P. (2000). ""Public service motivation" as an argument for government provision". In: *Journal of Public Economics* 78.3, pp. 275–299.

Francois, P. (2003). "Not-for-profit provision of public services". In: *The Economic Journal* 113.486, pp. C53–C61.

Francois, P. (2007). "Making a difference". In: *RAND Journal of Economics* 38, pp. 714–732.

Frey, B. S. and R. Jegen (2001). "Motivation Crowding Theory". In: *Journal of Economic Surveys* 15.5, pp. 589–611.

Gagné, M. and E. L. Deci (2005). "Self-determination theory and work motivation". In: *Journal of Organizational Behavior* 26.4, pp. 331–362.

Glaeser, E. and A. Shleifer (2001). "Not-for-profit entrepreneurs". In: *Journal of Public Economics* 81, pp. 99–115.

Graf, C., B. Suanet, P. Wiepking, and E. M. Merz (2023). "Social norms offer explanation for inconsistent effects of incentives on prosocial behavior". In: *Journal of Economic Behavior and Organization* 211, pp. 429–441.

Grant, A. M. (2007). "Relational job design and the motivation to make a prosocial difference". In: *Academy of Management Review* 32.2, pp. 393–417.

Grant, A. M. (2008). "Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance and productivity". In: *Journal of Applied Psychology* 93.1, pp. 48–58.

Gregg, P., P. A. Grout, A. Ratcliffe, S. Smith, and F. Windmeijer (2011). "How important is pro-social behaviour in the delivery of public services?" In: *Journal of Public Economics* 95.7–8, pp. 758–766.

Grosch, K., M. Ibañez, and A. Viceisza (2022). "Competition and prosociality: A lab-in-the-field experiment in Ghana". In: *Journal of Behavioral and Experimental Economics* 99, p. 101887.

Handy, F. and E. Katz (1998). "The wage differential between nonprofit institution and corporations: getting more by paying less?" In: *Journal of Comparative Economics* 26.2, pp. 246–261.

Lacetera, N. and M. Macis (2010). "Social image concerns and prosocial behavior: Field evidence from a nonlinear incentive scheme". In: *Journal of Economic Behavior and Organization* 76.2, pp. 225–237.

Lee, J. W. and H. Bang (2012). "High performance work systems, person-organization fit and organizational outcomes". In: *Journal of Business Administration Research* 1.2, pp. 129–138.

Mastracci, S. H. and C. Herring (2010). "Nonprofit management practices and work processes to promote gender diversity". In: *Nonprofit Management and Leadership* 21.2, pp. 155–175.

Mellizo, P., J. Carpenter, and P. H. Matthews (2014). "Workplace democracy in the lab". In: *Industrial Relations Journal* 45.4, pp. 313–328.

Mellstrom, C. and M. Johannesson (2008). "Crowding out in blood donation: was Titmuss right?" In: *Journal of the European Economic Association* 6, pp. 845–863.

Morgeson, F. P. and S. E. Humphrey (2006). "The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work". In: *Journal of Applied Psychology* 91.6, pp. 1321–1339.

Mosca, M., M. Musella, and F. Pastore (2007). "Relational goods, monitoring and non-pecuniary compensation in the nonprofit sector: the case of the Italian social services". In: *Annals of Public and Cooperative Economics* 78, pp. 57–86.

Non, A., I. Rohde, A. de Grip, and T. Dohmen (2022). "Mission of the company, prosocial attitudes and job preferences: A discrete choice experiment". In: *Labour Economics* 74, p. 102087.

Parker, S. K. (2003). "Longitudinal effects of lean production on employee outcomes and the mediating role of work characteristics". In: *Journal of Applied Psychology* 88.4, pp. 620–634.

Ploner, M. (2007). *Personal Autonomy in Trust-Based Interactions: An Experimental Analysis*. CEEL Working Paper 0701. University of Trento.

Preston, A. E. (1989). "The nonprofit worker in a for-profit world". In: *Journal of Labor Economics* 7.4, pp. 438–463.

Roomkin, M. and B. Weisbrod (1999). "Managerial compensation and incentives in for-profit and nonprofit hospitals". In: *Journal of Law, Economics, and Organization* 15.3, pp. 750–781.

Rothschild, J. and C. Milofsky (2006). "The centrality of values, passions, and ethics in the nonprofit sector". In: *Nonprofit Management and Leadership* 17.2, pp. 137–143.

Rousseau, D. (1995). *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*. Thousand Oaks: Sage.

Ryan, R. M. and E. L. Deci (2000). "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being". In: *American Psychologist* 55, pp. 68–78.

Sant'Anna, P. H. and J. Zhao (2020). "Doubly robust difference-in-differences estimators". In: *Journal of Econometrics* 219.1, pp. 101–122.

Serra, D., P. Serneels, and A. Barr (2011). "Intrinsic motivations and the non-profit health sector: Evidence from Ethiopia". In: *Personality and Individual Differences* 51.3, pp. 309–314.

Speckbacher, G. (2013). "The use of incentives in Nonprofit Organizations". In: *Nonprofit and Voluntary Sector Quarterly* 42.5, pp. 1006–1025.

Winter, V. and J. Thaler (2015). "Does Motivation Matter for Employer Choices? A Discrete-Choice Analysis of Medical Students' Decisions Among Public, Nonprofit, and For-Profit Hospitals". In: *Nonprofit and Voluntary Sector Quarterly* 45.4, pp. 762–786.

INSTITUT DE RECHERCHE ÉCONOMIQUES ET SOCIALES

Place Montesquieu 3
1348 Louvain-la-Neuve

ISSN 1379-244X D/2026/3082/22

UCLouvain

IRES | LIDAM Louvain Institute of Data Analysis and Modeling in economics and statistics