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# **WORKER SATISFACTION AND PERCEIVED FAIRNESS: RESULT OF A SURVEY IN PUBLIC, AND NON-PROFIT ORGANIZATIONS**

Ermanno Tortia

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# Worker Satisfaction and Perceived Fairness: Result of a Survey in Public, and Non-profit Organizations\*

Ermanno Tortia<sup>^</sup>

Department of Economics, University of Trento

## Abstract

Exploiting a unique data set concerning a sample of 228 social service organizations, and on 2066 workers, the paper seeks to demonstrate that workers' satisfaction with the job and loyalty to the organization are crucially influenced by fairness concerns. Worker well-being is increased by a higher degree of perceived fairness, and the effect is highest for procedural fairness. By sorting the organizations into public and nonprofits, the former are found to be at a disadvantage in regard to both satisfaction and perceived fairness. Nonprofits show the highest scores on most items and the gap is highest in the realm of procedural fairness. ♦

Key words: social services, nonprofits, worker satisfaction, distributive fairness, procedural fairness.

JEL classification: J81, L31, P50

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<sup>^</sup> Dipartimento di Economia - Università di Trento, via Inama 5 – 38100 Trento (Italy). Tel. +39 0461 882251 – Fax +39 0461 882222, email [etortia@economia.unitn.it](mailto:etortia@economia.unitn.it).

## 1. Introduction

Research on the role of fairness in organizational settings has the potential to widen our understanding of the elements influencing the well-being of the actors involved. Workers are among the main actors participating in the setting up of organizations, and the study of the determinants of their well-being is paramount when the role of fairness is considered. In this study, the influence of workers' perceived fairness on their on-the-job well-being, as a proxy for utility, is considered. In turns, well-being is measured by satisfaction with the job and loyalty in terms of willingness to stay with the organization. For the first time, the relevance of fairness is tested against data that concern a sample of organizations in the Italian social service sector.

The dataset, which will be fully described in section 4, comprises information about worker satisfaction and loyalty, which are used as success indicators, and worker perceived fairness, whose influence is assessed together with the wage and effort. Supplementary information concerns socio-demographic, individual and organizational aspects. The primary objective of the paper is to narrow the gap separating theoretical elaboration and experimental results on the nature and features of fair behavior on the one hand,<sup>1</sup> and the empirical testing of its relevance in

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<sup>1</sup> At the theoretical and experimental level, the study of fair behavior has recently acquired paramount importance. Three streams of inquiry can be singled out. A first stream tries and explain fairness starting from purely self-seeking behavior. In a recent book, Binmore (2005) explains fair behavior and the institutions thereof as processes of equilibrium selection in repeated games. The second stream starts from the observation that fair behavior is based on reciprocity, which is defined as the attitude of the individual to be kind when she is treated kindly, and to be unkind when she is treated unkindly (Rabin, 1993). The third stream, close to the behaviourist one, agrees with the second that individual behavior cannot be understood solely on the basis of self-seeking preferences (Ben-Ner and Putterman, 1999; Gintis, 2005; Seabright, 2005) but goes beyond fairness as reciprocity because it explicitly works on intrinsic motivations and distinguishes them from extrinsic ones (Deci, 1975; Deci and Ryan, 1985). In this stream, Ben-Ner and Putterman (1999) describe individual behavior as driven by three different types of preference:

organizational settings on the other hand.

A second research objective will be pursued at the comparative level, given the presence of different organizational forms in the sector considered, which is mainly populated by public and non-profit organizations.<sup>2</sup> The empirical analysis compares organizational features, socio-demographic characteristics and perceptions of workers, and their differing impacts in different organizational forms. The envisaged importance of the differences between public and non-profit organizations is fully confirmed. On the other hand, fairness is found to crucially influence satisfaction and loyalty in both organizational forms.

The rationale of the comparative analysis is also found in the specific nature of nonprofits, which are likely to constitute the principal setting for testing the relevance of fairness. There are two reasons for this: first, non-selfish motives are expected to be dominant in non-profit organizations (Hansmann, 1980; Preston, 1989; Rose-Ackerman, 1996; Frank, 1996), and, correspondingly, several empirical studies on fairness deal with non-profit organizations. Second, nonprofits organizations are often found to pay lower salaries, and fairness may be a crucial ingredient of the incentive mix used to motivate workers (Mirvis, 1992; Borzaga and Tortia, 2006). Indeed, the main upshot of the analysis is that when the significance of fairness of procedures and organizational routines is taken into account, workers can no longer be described

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self-regarding, other-regarding and process-related. Finally, Grimalda and Sacconi (2005) introduce the idea of conformist preferences, describing individuals as seeking compliance with moral principles conditional on the expectation of like compliance by other agents. Conformist preferences are taken to characterize organizations like non-profit ones, where the profit motive, hence self-seeking preferences, are not dominant.

<sup>2</sup> The Italian social service sector also comprises a small number of for-profit organizations. These represent about 4% of the organizations and 5% of the workforce in the sector. Because for-profit firms are overrepresented in our sample (Table 1), the data do not allow satisfactory analysis, which will be restricted to non-profit and public organizations.

as driven solely by self-seeking motivations. If the workers' assessment of the fairness of norms established within the organization is relevant to their well-being, and possibly effort levels, then it is necessary to consider the weight of not-self-seeking motivations in evaluating their behavior.

A pressing methodological question in this context is how worker utility and fairness concerns can be measured empirically. The traditional economic view is that utility must be ordinal and inferred from observed behavior, not measured directly: self-reported scores for satisfaction, willingness to stay and perceived fairness are used, because objective proxies for subjective variables are not available, and where they are available, they may show severe limitations. This notwithstanding, satisfaction measures are increasingly accepted as suitable proxies for utility (Oswald, 1997; Frey and Stutzer, 2002, Binswanger, 2006), since they are reported to overlap in a robust way with more traditional, objective measures of well-being (Lelkes, 2006). This study is one of the first to introduce subjective measures of fairness and the willingness to stay with the organization adds a second subjective proxy for well-being on-the-job.

The paper is organized as follows: after the introduction, Section 2 briefly surveys the literature on fairness in organizational settings, and introduces the theoretical scheme underpinning the study; Section 3 presents the descriptive part of the empirical work; Section 4 discusses the measures of procedural and distributive fairness used in the econometric analysis of the factors influencing workers' satisfaction and loyalty is presented (Section 5). The empirical findings are then connected with theory in Section 6. Section 7 concludes.

## 2. Fairness in organizational settings: the record to date

Assessment of the role of fairness in organizations arose in connection with the study of pay structures, relative wages, and reference wages. Within the more orthodox economic approach,

Milgrom and Roberts (1990) attempt to identify the advantages of the decision processes that permit rent-seeking, and to incorporate this into a cost-benefit analysis of optimal decision processes. Equity criteria are endogenously defined by organizations in order to generate efficiency: they constrain rent-seeking and are a substitute for less “open” (i.e. more hierarchical) organizational processes. Equity should never go as far as stunting incentives to pursue organizational objectives. On the other hand, it can in many cases lead to the first best solution, by limiting resistance to change and allowing the implementation of new proposals that do not damage the other interested parties. Akerlof and Yellen (1984, 1990) move away from the orthodox stream. Starting from a critique of efficiency wages, they highlight the role of gift exchange and reciprocity between employers and employees, and of fair wages, to remedy the inability of traditional microeconomic models to account for higher than minimum work effort and wages above marginal products. Fair treatment increases worker morale and, consequently, effort. Frank (1984) argues that egalitarian internal wage structures arise because of “equity” considerations, a concept that he equates with that of status; Stark (1990) takes account of relative status deprivation in order to explain why workers are usually not paid their marginal product; Frank (1996) provides compelling evidence that compensating wage differentials are due to the necessity to abide with social responsibility on the job; Levine (1991) argues that group cohesiveness and lower wage dispersion increase efficiency in participatory firms, thereby explaining involuntary unemployment among blue collars, who are paid above-market wages in order to boost their compliance with the firm’s objectives. In some studies, worker satisfaction as a proxy for individual well-being is connected with distributive fairness. Clark and Oswald (1996) show that workers well-being is negatively influenced by comparison wage rates, which depend on the wage paid to fellow workers within the organization.

Some studies have analyzed the role of fairness in different types of organization. Most of them deal with nonprofits, since these have often been associated with a higher degree of

distributive fairness (Leete, 2000), intrinsic motivations and ideological drives (Rose-Ackermann, 1996). Leete (2000) takes wage dispersion as the relevant proxy for comparing the different degrees of distributive fairness characterizing different organizational forms. The hypothesis is that non-profit organizations rely on the collaboration of intrinsically motivated employees. Intrinsic motivations are thought to be supported by a higher degree of wage equity, which is a proxy for fairness, since a strong dispersion of monetary remuneration would stunt motivations different from monetary ones, in a manner similar to the crowding-out effect hypothesized by Frey (1997). Labor market data from the 1990 US Census confirm the hypothesis, since a negative and significant spread between non-profit organizations and for profit-firms is shown, while the average level of monetary remuneration is similar in the two organizational forms. The differences in variance are as wide as 20% for executives, and 14% for white collar workers as a whole. It declines to 3% in the case of blue collars. In Leete's study, wage dispersion is the only aspect that represents a fairer work environment, while the role of non-monetary aspects, for example linked to organizational processes, is merely assumed. A second limitation is the assumption that lower wage dispersion is *always* synonymous with fairer work environment. This assumption abstracts from the real features of distributive processes, since, in principle, also higher wage dispersion can be fairer depending on the characteristics of the workforce and of the production process. Furthermore, Leete does not present any evidence on how wage equity is perceived by workers. Finally, the influence of fairness on worker well-being is not analyzed.

These works are nearer to the traditional economic approaches, which identify a causal link between effort and monetary incentives. They are mainly concerned with outcomes, and therefore with distributive fairness. A few, much more recent, studies deal with the fairness of procedures. They examine non-monetary aspects of the job, and confirm a positive impact on worker morale and effort. Notably, some recent studies explicitly introduce the idea of procedural utility (Benz, Frey and Stutzer, 2004), which states that people value not only actual outcomes,

i.e. the “*what*”, but also the conditions and processes which led to these outcomes, i.e. the “*how*”. Procedural utility refers to the non-instrumental pleasures and displeasures of processes. The only applied study carried out on this same concept in the realm of work organization is the one by Benz and Stutzer (2003),<sup>3</sup> who work on the 1998 UK WERS (Workplace Employee Relations Survey). They find that worker satisfaction with pay is positively and significantly influenced by procedural factors such as the frequency of being asked about pay issues by superiors. The procedural factor is a proxy for the strength of consultation processes and the clarity of procedures followed in fixing wages and wage changes. This result is obtained over and above the influence of pay itself, which is positive and significant. Hence procedural utility is valued independently of pay and other instrumental elements of well-being. Besides, just one item representing procedural utility is introduced, and the results, which do not distinguish among different organizational forms, concern pay-satisfaction alone, not overall satisfaction with the job.<sup>4</sup>

The importance of fairness in organizational settings emerging from the above-cited studies enables the formulation of new tentative hypotheses concerning the relation between fairness and

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<sup>3</sup> Frey and Stutzer (2005) apply the concept of procedural utility to the political sphere, showing that participation rights in political processes have a positive and significant effect on citizens’ well-being, measured as satisfaction with life in general.

<sup>4</sup> Other studies consider the determinant of job satisfaction, without making the role of fairness explicit, however. Benz (2005) tests the determinants of job satisfaction using two large datasets for the whole US and UK economies (the National Longitudinal Study on Youth for the US and the British Household Panel Survey for the UK), comparing nonprofit and for-profit workers. His main finding is that workers in nonprofit organizations are indeed more satisfied with their jobs than their counterparts in for-profit firms. The result is robust with respect to differences in monetary compensation and fringe benefits, and to different personal characteristics in the non-profit and for-profit sectors. The work by Benz goes some way towards identifying the determinants of job satisfaction. However, it lacks empirical evidence on worker motivations and fairness.

worker on-the job well-being. Traditional theories, such as the neoclassical theory of individual labor supply, the principal-agent model (Alchian and Demsetz, 1972), or the efficiency wage theory (Shapiro and Stiglitz, 1984), used to consider the relation between workers' effort and the wage, which was seen as the sole factor able to motivate workers in their activity. Workers' utility ( $U$ ) was a positive function of the wage ( $w$ ) and a negative function of effort ( $e$ ), while the relation between effort and the wage was positive, but only in some specifications of those models, as in the efficiency wage one:

$$U = U(w, e) \text{ where } \frac{\partial U}{\partial w} > 0 \text{ and } \frac{\partial U}{\partial e} < 0$$

These theories disregarded the non monetary aspects of the job, and effort was seen as being driven exclusively by monetary remuneration. Furthermore, only objective measures were used for the monetary aspects (the level of the wage), while no account was taken of subjective evaluations. The role of non-monetary motivations was introduced in economics initially by Pagano (1985), and then by Frey (1997) and has acquired momentum in recent years (Ben-Ner and Putterman, 1999; Gui and Sugden, 2005).

Starting from these observations, utility can be hypothesized as influenced not only by the salary and effort levels, but also by the fairness of distributive processes and procedures.

$$U = U(w, e, f) \text{ where } \frac{\partial U}{\partial f} > 0$$

where  $f$  is a vector of indexes representing distributive and procedural fairness. The organizational form is likely to have a relevant impact as well by modifying the magnitude of some coefficients and, in some cases, the functional relations. Some of these differences will emerge through comparison between public and non-profit organizations. A formal model will not be developed and tested. However, the results of the empirical analysis will be used to develop new theoretical hypotheses serving as heuristic devices for future research at both the

theoretical and empirical level (Malerba, 2005).

### 3. The research: structure and descriptive results

The research whose results are presented in this paper was conducted in 1998 on the social-welfare and educational service sector in Italy. It involved 228 organizations (for a total of 268 operational units) operating in 15 Italian provinces.<sup>5</sup> Separate questionnaires were also administered to 2066 paid workers. Table 1 shows the organizational types and their workforces.

Table 1 about here

The Italian social services sector is characterized by a predominance of nonprofit organizations. Roughly one-fourth of the total number of organizations are public, while for-profit firms constitute only a tiny fraction.<sup>6</sup> Nonprofit organizations amount to about 70% of the total.<sup>7</sup> Publicly-owned organizations are controlled by administrative authorities and are characterized by a higher monetary remuneration than in nonprofits and by quite rigid hierarchical structures governed by public managers. Non-profit organizations have a declared

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<sup>5</sup> The dataset was created at the University of Trento, Department of Economics, in years 1998 and 1999, by ISSAN, Institute for the Development of Nonprofit Organizations, in collaboration with FIVOL, Italian Foundation for Voluntary Work, and FEO, European Foundation for Employment.

<sup>6</sup> The database encloses also 17 for-profit firms with 188 workers.

<sup>7</sup> In the dataset, non-profit organizations can be further sorted into three types: religious nonprofits, other lay (or non-religious) nonprofits, and social cooperatives, which are the most frequent in our database employing about a half of the total number of workers in nonprofits. This more refined distinction will not be made explicit in the rest of the paper, so as not to widen the scope of the analysis excessively. The structural-operational definition suggested by Anheier and Salomon (1992) proves sufficient. Under this definition, non-profit organizations share some important characteristics: they are formal, private, nonprofit-distributing, self-governing, voluntary, and mission oriented. Furthermore, nonprofits are often supported by volunteer work.

social mission which is underpinned by the non-profit distribution constraint (Weisbrod, 1975; Hansmann, 1980). Organizational protocols tend to be flat, and horizontal coordination prevails over top-down decision-making by the management. Participation and worker involvement is often an important part of this model. Wage differentials are minor, and pay rates are correlated more to functional differentiation than to hierarchical positions.

The questionnaires gathered detailed information on the characteristics of organizations, the occupational and socio-demographic features of workers, and their well-being. Table 2 shows the workers' main characteristics: the predominance of female workers is immediately apparent, though nonprofits show a higher ratio of male work. There is a predominance of middle aged workers (36 to 50 years old), though workers in nonprofits are younger than those in the public sector. The most frequent educational qualification is the high-school diploma. Nonprofits have a higher occurrence of unskilled and graduated workers with respect to the public sector. Workers with specific training for work in social services are the rule in the public sector (about 75% of cases), and they represent the majority of cases in the sector as a whole. Full-time employment contracts are also the rule (three-fourths of cases), with marginal variations by organizational form.

Table 2 about here

As regards wages (Table 3), empirical research has shown that pay is lower in nonprofits than in public organizations delivering the same services (Levine, 1991; Leete, 2000). Our results confirm these findings. Wages in the public sector are higher than in nonprofits, and display lower dispersion, at least as far as the hourly wage is considered. The ratio of the standard deviation to the average hourly wage is similar across organizational forms, though nonprofits

show a slightly higher value.<sup>8</sup> Workers in the nonprofit sector seem to face a higher degree of risk concerning their monetary remuneration because of higher market pressure and the lower incidence of soft budget constraints (Kornaj, 1986). Given the assumption of risk-averse workers, if their well-being depended exclusively on the monetary remuneration, a lower degree of satisfaction would be expected in the nonprofit sector, but this is not confirmed by our data.

Table 3 about here

Proxies for workers' effort are reported in Table 4. The first proxy for effort is the number of excess weekly effective work-hours with respect to contractual work-hours. This variable shows a limited number of excess work-hours in the sector and little variation across organizational forms. The second proxy is the number of absentee work-days outside contractual vacations. A higher number of absentee work-days represents lower effort. The average for the whole sample is 11 days. However, in this case strong variation by organizational form is observed: workers in the public sector take a number of annual absences that is almost double that of workers in nonprofits.

Table 4 about here

Workers' well-being is indexed by self-reported satisfaction scores (Table 5). The database records satisfaction with the job as a whole, plus a list of 14 items concerning satisfaction with various job characteristics. Workers' well-being is hypothesized as depending on two main components and the items of satisfaction were accordingly sorted into two groups: the first represents the material component and includes monetary and non-monetary incentives; the

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<sup>8</sup> Comparisons have been performed between the public sector and non-profit organizations. Leete (2000) compares wage dispersion in non-profit and for-profit firms. Wage dispersion was calculated for for-profit firms in our sample, and it proved to be slightly lower than in nonprofit organizations. Hence our results do not confirm Leete's findings (see also Mosca and Pastore, 2003, on the same data).

second corresponds to the immaterial component (happiness) and includes the aspects of the working environment contributing to workers' self-respect and auto-affirmation, proxied by elements such as workers' involvement in the activity of the firm, professional growth and the relational aspects of the job. These immaterial aspects are nonetheless able to generate satisfaction, and consequently to increase well-being.<sup>9</sup> The classification is not drawn up on an ex-ante basis alone. Categorical principal components analysis (CatPCA) was run on the items of satisfaction. The results of the analysis (in Appendix B) are coherent with the partition introduced here.<sup>10</sup> The items of material satisfaction appear in the first and in the third component, while the items of happiness are concentrated in the second component.<sup>11</sup>

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<sup>9</sup> A similar classification is based on the so-called "two factors model" and distinguishes between intrinsic and extrinsic motivations. If applied in the present study, material satisfaction would have rewarded extrinsic motivations, while happiness would have rewarded intrinsic motivations. Also the classification drawn up by Ben-Ner and Putterman (1999) could be used. This distinguishes between other regarding, self-regarding and process-regarding preferences. Given the database at hand, the item of satisfaction would have been sorted into process-related aspects of the job, and self-regarding aspects.

<sup>10</sup> The significance of the CatPCA was tested by means of reliability analysis. The Cronbach Alpha for the first three components was comprised between 0.7, and 0.8, showing a good degree of significance.

<sup>11</sup> An exception is represented by the items of relational satisfaction, which were put in the group used to calculate happiness, although in the CatPCA they appear in the first component because they are likely to constitute part of the workers' (non-material) remuneration (Borzaga and Depedri, 2005). The reason for this shift is that they represent an immaterial component of satisfaction. This partition improves the empirical analysis in section 5 since the wage has a positive impact on material satisfaction when the items of relational satisfaction are excluded, while its impact becomes not significant when they are added. On the other hand, the qualitative results do not vary when the items of relational satisfaction are included in the happiness component. Hence the exclusion of the items of relational satisfaction from material satisfaction allows better isolation of the influence exerted by some variables. For more detailed analysis of the relation between satisfaction and incentive mixes on the same data see in Borzaga and Tortia (2006).

#### Table 5 about here

In broad terms, the data show that workers are more satisfied with the items of happiness than with the material aspects of the job. The level of the wage, past and future career advancements seem to create the greatest dissatisfaction, while workers appreciate working-hours arrangements and the degree of job security. As for the items of happiness, satisfaction proves to be highest as far as the social usefulness of the job and the relational aspects are concerned. At the comparative level, the most important result is that the public sector exhibits a lower degree of satisfaction for all the items, both material and immaterial. The only weak exception is represented by job security, since the public sector protects jobs much better than does the private sector in general. On the other hand, major gaps are found for past and future career advancement and for the immaterial items, such as relations with superiors.

#### Table 6 about here

As regards loyalty (Table 6), the majority of workers want to stay with their organizations as long as possible, and 74% would like to stay for at least some years. On the other hand, one third of workers would quit if a better job opportunity (in the same sector or in another sector) arose. Comparatively, workers show a higher degree of loyalty in nonprofits, while about 40% of workers in the public sector would prefer to quit.<sup>12</sup>

#### 4. The measure of distributive and procedural fairness

Fairness can be observed in relation to diverse aspects of the working activity. Here, distributive and procedural fairness are considered. Various authors have dealt with different

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<sup>12</sup> Many workers in the public sector are likely to be willing shift to a different job with the same position in the public sector, since it offers higher pay and job security.

concepts of fairness, which was first analyzed in the psychological literature (Thibaut and Walker, 1975; Lynd and Tyler, 1988). Distributive fairness is usually defined as the relation between outputs and inputs in comparison to the same relation for a certain reference group. If outcomes are distributed fairly the ratio of outputs to inputs (for example the ratio of the wage to effort) would tend to equalize across individuals (Adams, 1963, 1965; Solari, 2003). Distributive fairness can also be defined subjectively, as the fairness of outputs to inputs perceived by a single worker. This latter definition will be used in the present study. On the other hand, procedural fairness is usually referred to as a property of relations which guarantee fair outcomes, but it can also be referred to the quality of procedures, for example as far as the circulation of information is concerned, disregarding outcomes (Tyler and Blader, 2000; Solari, 2003). Here the former concept of procedural fairness will be adopted.

Measures of fairness can be objective or subjective. The literature contains some examples of objective measures of distributive fairness. Relative status deprivation (Stark,1990), compensating wage differentials (Frank,1996) and comparison wage rates (Clark and Oswald,1996) constitute a first group of measures of distributive equity. Various versions of relative wages are the key variable when equity judgments are to be expressed, since workers do not pay attention to their own pay level alone, as more traditional theoretical streams would have it. The equity of wage structures can be represented not only in relative terms but also in absolute terms with a measure of wage dispersion. Egalitarian wage structures (Frank, 1984), group cohesiveness (Levine, 1991) and the direct measurement of wage dispersion (Leete, 2000) make up a second group of measures. Objective measures have at least one important drawback: they do not give a fruitful representation of the perception of fairness felt by the involved actors, and hence of their judgments and possible consequences on their actions. Furthermore, objective proxies for procedural fairness are still harder to define and more questionable than proxies for distributive fairness. Subjective measures eschew these limitations. But they may have other

drawbacks, such as casual or systematic overestimation or underestimation of the degree of fairness present in a certain organization. They may also be biased because of idiosyncrasies in individual perceptions not linked to the phenomenon under investigation or because of the presence of different latent unspecified determinants. However, as shown by Oswald (1997) in his seminal contribution, these may not be sufficient reasons for not using subjective measures. First of all, casual mistakes are likely to constitute random gaps from the true value and to compensate each other. Second, systematic mistakes (over or underestimation) do not influence the final results as long as the measurement scale is ordinal. Idiosyncrasies may bias the results, but this problem is present in the case of objective measures as well. The best remedy for this problem is the availability of longitudinal data, but unfortunately they are not available for this study. Finally, also misspecification of the model is a problem common to both objective and subjective measures. Eventually, subjective measures may not be confidently used only if individuals are assumed to respond irrationally, which obviously cannot be taken for granted. As for empirical test using subjective measures of fairness, few of them are found in the literature and all of them are used to test the determinants of fairness: Hampton and Heywood (1993, 1999; Verhoogen et al. (2002); Paul (2006) estimate wage-fairness perception equations and find that the wage together with gender, race and age are the main determinants of perceived unfair wages. The negative impact of comparison wage is not confirmed in all studies. However, neither of these studies test the impact of fairness perceptions on job satisfaction, and all of them employ fairness perceptions that concern the monetary remuneration alone. All non-monetary aspects of fairness such as the procedural ones are left out of the picture.

If subjective measures of fairness are accepted, then their relation with worker satisfaction can be analyzed and evaluated. In this study, the concept of fairness is taken to be a complex one comprising different dimensions which were specifically surveyed. Two sets of questions were present in the original questionnaire (section IV and V, reported full-length in Appendix A). They

do not refer explicitly to fairness, but are intended to measure the perception of the equity of distribution and procedures. The first set explores how workers judge organizational protocols, involvement processes, flow of information, and other procedures within the organization. It can be interpreted as pertaining to procedural fairness (Table 8). The second set deals with distributive processes within the organizations: the questions asked workers to evaluate how well their remuneration corresponded to their contribution in terms of effort, competencies and experience, etc. They can be interpreted as pertaining to distributive fairness (Table 7).<sup>13</sup> This partition is borne out by Solari's (2003) study on the same dataset. Principal components analysis is used to show that the items of the two sets of questions exactly sort into two meta-dimensions<sup>14</sup> which correspond to procedural and distributive fairness. Given this robust result, it is possible to build two indexes calculated as mean values of the single items and representing the components of fairness used in the econometric analysis in Section 5.

Table 7 about here

Descriptive analysis of distributive and procedural fairness shows that, in general, mean scores are relatively low when compared, for example, to the items of satisfaction (Table 5): an at least one point difference on the 1 to 7 Lickert scale. This finding suggests that there is a major difficulty in satisfying workers' expectations as far as fairness is concerned. Starting from

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<sup>13</sup> Some items concerning procedural fairness can be understood as referring to outcomes (for example the balance of incentives to contribution, and professional growth and career), and therefore to distributive fairness. However, these items can also be understood as processes taking place within the organization, and hence related to procedural justice. Moreover, the cognitive frame of the question is not given in terms of outcomes, while the question on distributive fairness clearly refers to monetary remuneration.

<sup>14</sup> The robustness of the analysis is tested by means of reliability statistics, which turned out to be highly significant, with a Cronbach Alpha higher than 0.8 for both components.

distributive fairness, a strong variation among mean results is not recorded, though workers seem to be particularly dissatisfied with the monetary remuneration relative to the stress and tension on the job. This can be interpreted as confirming Akerlof and Yellen's (1984) hypothesis on gift exchange, since wages in the sector are low and perceived as unfair when compared with effort. On the other hand, workers perceive a fairer distribution if the economic possibilities of the organization are considered. However, comparative data show that this latter effect is due to the perception of workers in nonprofit organization, who are aware of the economic possibilities of their organization much more than are public sector workers. In general terms, public sector workers show a significantly lower perception of distributive fairness on all the listed items.

Table 8 about here

As for procedural fairness, the results are generally lower and particularly dissatisfactory in the cases of the balance of incentives to contribution, the transparency of promotions and professional growth and career. However, the worst results are seemingly due to a further deficit of the public sector. While the average for nonprofits is only slightly lower than in the case of distributive fairness, the public sector displays a significant negative gap (2.9 vs 3.5) scoring strikingly low for the transparency of promotions, professional growth and career, and the balance of incentives to contribution. Taking into consideration the low values of the public sector for both distributive and procedural fairness, it seems that the inadequacies of organizational protocols may crowd out intrinsic motivations and induce workers to demand, and managers to concede, increasing extrinsic incentives (Frey, 1997). Indeed, wages in public sector are significantly higher than in the other organizational forms.

The next section will introduce the econometric analysis of the influence of fairness on worker well-being. Given the definitions of distributive and procedural fairness and the partition of the items of satisfaction put forward in section 3, one would expect a relatively stronger influence of distributive fairness on the material components of satisfaction than on the happiness component.

## 5. The influence of fairness on worker satisfaction and loyalty

The empirical analysis is carried out using OLS and ordered logit estimates. The linear analysis concerns the factors influencing the average index of satisfaction, material satisfaction and happiness,<sup>15</sup> while ordered logit estimates are run when the dependent variables are overall satisfaction with the job and loyalty.<sup>16</sup> The main objective is the evaluation of the influence of perceived fairness although also the influence of the wage, and of two proxies representing effort, is assessed. Finally, covariates include other control variables representing socio-demographic features of workers, and other personal and organizational characteristics.

A positive and significant linkage between well-being and fairness is taken to show that organizations able to promote fairer organizational protocols are better able to motivate workers, thereby inducing higher involvement and a willingness to collaborate and pursue the organization's objectives even in the presence of low salaries. Hence it can also represent an indirect test for increased efficiency.

A criticism that can be made of the use of these measures of fairness as covariates influencing well-being is that they actually represent proxies for satisfaction and loyalty. It would not come as a surprise to find that the link between fairness and well-being is indeed strong. Here it should be noted that the questions concerning fairness (in Appendix A) were posed in order to elicit descriptively the *subjective evaluation of objective features* of the work environment and of

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<sup>15</sup> The index of satisfaction? was calculated as the average of all the items of satisfaction presented in Table 5, while material utility and happiness were calculated as averages of the respective items.

<sup>16</sup> The dataset also comprised a separate item concerning satisfaction with the job as a whole. Since this item was ordered from 1 to 7, it was used to run ordered logit estimates, which are presented in the last column of tables 9 through 11.

distributive processes. In other words, these questions did not ask how satisfied the worker was with those elements. In principle, a worker can perceive a high degree of fairness without being satisfied with his/her job, for example because he/she would prefer a higher salary. Indeed, as shown by Borzaga and Depedri (2005), many workers who want to quit their organizations are either satisfied with various aspects of their job or perceive a fair work environment. Hence, well-being and fairness cannot be equated, and a positive linkage will be found only if a real influence between different variables occurs.

The empirical analysis is conducted in a cross-section environment.<sup>17</sup> As far as covariates were concerned, a sub-set of variables constituting the outcome of a pre-selection driven by our research questions was identified. The analysis of the full correlation matrix was then performed. This was a first step in dealing with collinearity and mis-specification problems. Correlation coefficients were no higher than 0.25 for all variables (hence collinearity was excluded), apart from the correlation between workers' age and tenure in the organization, which was 0.41, and the correlation between the two indexes of fairness, which presented a zero level coefficient equal to 0.56.

In particular, the following reduced form equation was estimated for the linear regressions:

$$y = \alpha + \beta_{1i} PERS_{1i} + \beta_{2i} ORG_{2i} + \beta_3 WAGE + \beta_{4i} EFFORT_{4i} + \beta_{5i} FAIR_{54i} + \varepsilon \quad (1)$$

where the dependent variable (y) represents the three different measures of worker satisfaction (mean index of satisfaction, material satisfaction and happiness).

The reduced form for the ordered logit estimates is:

$$\ln \Omega_m(y) = -\tau_m + \beta_{1i} PERS_{1i} + \beta_{2i} ORG_{2i} + \beta_3 WAGE + \beta_{4i} EFFORT_{4i} + \beta_{5i} FAIR_{54i} + \varepsilon_m \quad (2)$$

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<sup>17</sup> Cross-sectional data are not suitable for investigation of strong causal linkages. Hence this endeavour will not be attempted. The econometric analysis was intended to determine statistical linkages and reciprocal influences.

where  $\ln\Omega_m$  is the logit (i.e. the log of the odds) for the dependent variable  $y$  (overall work satisfaction and loyalty), which is linear in the estimated coefficients.  $-\tau_m$  are the cut points for an ordered dependent variable.

The meaning of the covariates is as follows:

$PERS_{1i}$  = personal characteristics = age, gender, high school diploma, university degree,  
specific training, open-ended contract, tenure, wage

$ORG_{2i}$  = organizational characteristics = size (log of number of employees), log-age of the  
organization

$WAGE$  = hourly wage

$EFFORT_{4i}$  = proxies for effort = extra hour worked with respect to contractual work-hours, non-  
vacation absentee work days

$FAIR_{5i}$  = two indexes of fairness = distributive fairness, procedural fairness

Starting from the socio-demographic variables in Table 9 (for the whole set of organizations), women prove to be more satisfied than men about the material aspects of the job, but not happier. This result is quite standard in the literature (Mirvis and Hackett, 1983). However, it is confirmed only for non-profit organizations in Table 11, but not for the public sector in Table 10. Age is positively related with satisfaction only in the case of happiness. Education seems to have a strong positive impact on happiness, but it reduces material satisfaction. It enhances self-realization, but material rewards do not seem to keep up with intellectual growth. It is also possible that educated workers give more severe evaluation of the material conditions of work. The two contrasting effects cancel each other out and the overall effect on satisfaction is hardly significant: only the ordered logit estimates evidence a negative impact of university degree on satisfaction. Specific training has a strong negative impact on satisfaction, mainly in its happiness

component, evidencing a form of disillusion with the features of the job, which specifically trained worker expected to be more stimulating and creative. Being on open-end contract and tenure enhance material satisfaction, as expected. On the other hand, a long term relation damages happiness, probably because of burn-out and other failures in internal agency relations. However, the latter result is confirmed only for the public sector, while it is not significant in nonprofits, which prove better able to sustain good relations with workers also in the long run. As for organizational variables, larger size strongly reduces satisfaction in all its components, and for both organizational forms, while the age of the organization increases the material component of satisfaction, but only in nonprofits, probably because older organizations are better established and able to offer better conditions, while material conditions in the public sector are more uniform independently of the age of the workplace.

Table 9 about here

The effort variables have a relevant negative effect on satisfaction, as expected. Extra hours worked reduce well-being mainly in its material component. The negative impact is stronger in the public sector, while in nonprofits only the material component is affected significantly.<sup>18</sup> On the other hand, the number of absentee workdays shows a much weaker influence: they enhance happiness by increasing the possibilities to cultivate extra-work activities. Hence, once again, nonprofits seem better able than the public sector to motivate workers. Involvement in the workplace makes effort less of a problem for workers' well-being. The wage has a weak, though significant, positive effect on the material component of satisfaction, as expected. The effect is strong in the public sector, where the overall level of satisfaction is also affected, while it is

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<sup>18</sup> These results confirm in general terms recent findings by Golden and Wiens-Tuers (2006), who find a significant and robust negative effect of mandatory extra hours on workers' family well-being. However, these authors do not test directly the impact of extra hours on job satisfaction.

absent in non-profit organizations. Workers in the public sector are more sensitive to monetary remuneration, while workers in non-profits, taking account also of their lower wages, seem to be driven by different motives and are more sensitive to non-monetary incentives (Borzaga and Tortia, 2006).

The role of both distributive and procedural fairness in influencing satisfaction turns out to be crucial for all the components of satisfaction, and for all organizational forms. Procedural fairness has the greatest coefficients, evidencing that workers pay attention first of all to procedures and only secondarily to outcomes when assessing the overall degree of organizational equity. The ordered logit estimates confirm these results. For example, when taking into consideration all organizational forms, the odds ratio shows that when the indexes of procedural and distributive fairness increase by one unit, the odds of having satisfaction increased by one unit grow by a factor of about 1.3 and 1.7 respectively. Neither does the relative weight of the effect of fairness on the different components of satisfaction show strong variation, though distributive fairness has a relatively stronger influence on material satisfaction than on happiness, as expected. As for organizational forms, well-being is deeply affected by fairness in both cases. Only a somewhat weaker, but still highly significant, effect of distributive fairness on happiness in the public sector is detected. The odds ratio in the ordered logit estimates shows that nonprofits reproduce exactly the effects found for the whole set of organizations, while in the public sector procedural fairness is relatively more important and distributive fairness is less important (the odds are 1.1 and 2.0 respectively). This result can be linked to the figures shown in Table 8: the level of procedural fairness in the public sector is so low that workers feel that the lack of equity in procedures is a major problem. On the other hand, distributive fairness is relatively less important, given the standardized features of distribution in the public sector.

Table 10 about here

The comparative analysis evidences various weaknesses in the public sector relative to non-

profit organizations. First of all education has a negative role in the public sector, while it enhances happiness in nonprofits. Hence, the material conditions of work seem to have greater weight in public organizations, and educated workers feel particularly dissatisfied with them. On the other hand, non-material and non-monetary aspects of the job emerge as more relevant in nonprofits, where educated workers feel happier because of better possibilities to fulfill their aspirations on the job. A second critical element distinguishing public from non-profit organizations is the impact of a long term contractual relation, which is negative in the public sector because of the influence on the happiness component. Cooperation between the workers' and the organization in the long run is difficult to accomplish. Hence it is a good proxy for the organization's ability to involve and motivate workers. This is shown clearly by the odds ratio in the ordered logit where the presence of the open-ended contract increases the probability of being more dissatisfied by a factor of about two. Third, effort impacts more negatively on worker well-being in the public sector than in nonprofits, evidencing a lower degree of involvement and a lower weight of the non-material components of well-being. This is true even if workers in nonprofits work more extra hours and are absent for half the days of workers in the public sector (Table 4). Overall it seems that involvement and a flatter and more democratic governance structure help to increase workers' well-being in non-profit organizations relative to the public sector by supporting non-material motivations and self-fulfillment.

Table 11 about here

An indirect, subjective measure of worker well-being is the stated strength of the relation between the worker and the organization in terms of willingness to stay or leave, given the relevant alternatives (Table 6). The direct measures of satisfaction so far presented have proved to strongly linked with the measures of perceived fairness. The use of an indirect measure of satisfaction as success variable can provide a further test, while also avoiding the criticism of the equivalence between stated satisfaction and perceived fairness that was previously discussed.

The mutually excluding alternatives concerning loyalty (reported in Appendix A) were ordered from five to one, since they represent the decreasing strength of the linkage between the worker and the organization, and they were used as dependent variables to run an ordered logit model whose covariates were equal to the regressions concerning satisfaction. The results are presented in Table 12 for all organizations and for the public and the non-profit sector separately. Starting from socio-demographic and other individual variables, age is positively linked with loyalty, as expected: as workers grow older outside options are less numerous and if they had desired to quit, they would already have left the organization. The effect of tenure, which is never significant, turns out to be weaker. Education is negatively related to loyalty and the effect is stronger in nonprofits. Better educated workers do have more opportunities, and this can increase their willingness to look for better jobs. Specific training is a necessary condition to gain employment in the public sector. Hence it is likely to increase the willingness to quit in nonprofits, where many workers may prefer the higher salaries and the better job protection offered by the public sector. Workers on open-ended contracts more often want to quit in the public sector, and this again evidences lack of involvement and greater difficulty in sustaining good long term relations with the organization. It is also possible that many of these workers are looking for different jobs in other sectors of the public segment of the economy, since they give greater weight to job security and monetary incentives. As for organizational variables, size is negatively related with loyalty, but only in the public sector, maybe because of the lower average size of nonprofits. Effort in the form of extra hours worked has a negative impact on loyalty only in the public sector, and this confirms the result found for satisfaction. When the number of absentee workdays is considered, a negative correlation with loyalty is detected, mainly in nonprofits. Given the positive correlation found in the case of satisfaction, it is possible to state that absentee workdays are more a proxy for disaffection than for effort: when there is disaffection, the reduction of effort increases satisfaction. At any rate, a different relation of the worker with non-profit relative to

public organizations is once again apparent, since not involvement, but material conditions are prevalent in the latter.

Table 12 about here

Distributive and procedural fairness are strongly significant in influencing fairness. Their impact is similar in the case of the whole sample. While distributive fairness retains a similar impact to that in the case of satisfaction, the influence of procedural fairness is reduced, although it is still extremely significant. This general result confirms previous findings (Borzaga and Depedri, 2005; Borzaga and Tortia, 2006)<sup>19</sup> that material and monetary conditions are relatively more important for loyalty than for satisfaction. However, remarkable differences between organizational forms are hidden: distributive fairness is more important for public organizations, while procedural fairness is more important for nonprofits. Hence it seems that workers in the public sector consider first of all the fairness of monetary incentives when assessing the strength of their link with the organization. Since workers in the public sector show a greater propensity to quit their organizations than do workers in non-profits (Table 6), this effect may again be due to their willingness to quit social services but to stay in the public sector, which guarantees more protected jobs, professional growth and higher wages. On the other hand, procedures are standardized and are not perceived as a crucial factor in determining their position in the organization. As for workers in nonprofits, the result is greater sensitivity to procedures, which are felt to be a key factor influencing their position, since they are defined most of all at the level of the firm's management. A second possible explanation of the same result is that that the motivations of workers in nonprofits are different from those of public sector workers: monetary oriented the latter, more of an intrinsic kind, hence stressing the relevance of procedures, the

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<sup>19</sup> In these works it was shown that intrinsic motivations and the procedural part of the incentive mix have a strong impact on satisfaction, while material incentives become crucial in influencing loyalty.

former. Workers would self-select themselves in organizations with different characteristics.<sup>20</sup>

## 6. Discussion

The empirical analysis leads to interesting consequences at the theoretical level. The main result concerns the pervasive influence of fairness on worker well-being. Not only is fairness significant for all specifications of worker satisfaction, for loyalty to the organization, and for both organizational forms, but coefficient and odds ratios show that the impact is extremely strong. Procedural fairness appears to be relatively more important than distributive fairness in influencing satisfaction, even if the weight of distributive fairness increases in the case of material satisfaction, as expected. The fairness of organizational processes seems to be a more complete and comprehensive criterion for the assessment of organizational behavior. The definition of procedural fairness put forward in the paper does not exclude outcomes, since, for example, incentives, professional growth and capabilities are considered insofar as they are embedded, as outcomes, in organizational processes.<sup>21</sup>

Second, different specifications of worker well-being are influenced by different factors. While material satisfaction is influenced by the objective features of the employment relationship and of the work environment (contract type, tenure, age of the organization, size, effort, wage), the non-

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<sup>20</sup> Also this second interpretation is well supported by the data, since the previous studies on the same dataset show that the motivations of workers choosing the public sector and nonprofits are quite different: the latter are significantly more sensitive to involvement and relations with users.

<sup>21</sup> Relevant theoretical arguments (Rabin, 1993), and experimental results (Falk et al., 2003) seem to support this line of enquiry. They show that not only do outcomes matter, but also the intentions of the actors concerned. Intentions are identified through not-chosen alternatives in experimental settings and define the processes through which outcomes are determined, as in Falk et al. (2003). Hence processes and the procedures devised to regulate them acquire momentum in the explanation of social interaction, the more so in organizational settings.

material components of satisfaction are mainly influenced by subjective features such as age, education and training. These results confirm the partition into two factors determined by the principal components analysis.

Third, the role of the wage and of effort in influencing worker well-being is downplayed when compared with traditional theories. The wage shows a significant influence on well-being mainly in its material component, while it plays a role for overall satisfaction only in the public sector.<sup>22</sup> Effort, proxied by the number of excess work-hours, proves to be important in lessening material satisfaction, but it also appears to have a leading role in influencing overall satisfaction.<sup>23</sup>

Fourth, institutional variation matters, since the results on the non-profit and the public sectors exhibit systematic differences, although these do not concern fairness. Different organizational forms seem to define different models where the institutional elements shift the influence of certain variables, in some cases inverting the sign of the linkage. In order to analyze the importance of different organizational forms further, the nonprofit dummy was introduced, taking into consideration all the specifications of worker well-being only for the data concerning public and non-profit organizations (i.e. a subset of the whole social service sector). The dummy is never significant. However, when the index of procedural fairness is eliminated, the dummy becomes highly significant. This is not the case of the index of distributive fairness: its elimination does not make the dummy significant. The same results are confirmed also using the data for the whole sector. In this respect it is even possible to state that the non-profit form is a

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<sup>22</sup> The effect of the wage on workers' satisfaction does not take account of the choices of the workers who would have wanted to work in the organization, but either quit or did not accept the job because of low monetary remuneration. If these data were available, it is likely that a stronger impact of the wage would have been observed.

<sup>23</sup> To be noted is that both the wage and effort in terms of extra-hours worked are never significant in the ordered logit estimates, which weight the influence of the other variables more. This provides further confirmation of the weaker linkage of the wage and effort with workers' well-being.

proxy for the degree of procedural fairness.

Generalizations about the factors that influence workers' well-being are difficult to make on solid empirical grounds. However, other linkages, such as the one concerning fairness, emerge as robust and almost invariant with respect to institutional factors. In this respect it is possible to return to the theoretical scheme outlined in Section 3 and make it more general by taking the empirical findings into account. To keep the analysis as simple as possible, the impact of socio-demographic and organizational control variables is not considered. Overall worker utility depends positively on two different components: material utility ( $S_m$ ) and happiness ( $S_h$ ).

$$U = U(S_m, S_h) \text{ where } \frac{\partial U}{\partial S_m} > 0 \text{ and } \frac{\partial U}{\partial S_h} > 0$$

In their turn material utility and happiness depend on different factors, which can be exemplified as follows:

$$S_m = S(w, e, f) \text{ where } \frac{\partial S_m}{\partial w} > 0, \frac{\partial S_m}{\partial e} < 0 \text{ and } \frac{\partial S_m}{\partial f} > 0$$

This first specification of worker satisfaction is quite close to the traditional one, since the positive linkage with the wage and the negative impact of effort, indexed by extra work-hours, are as expected, though only in the linear regressions and not in the ordered logit estimates. The effect of the wage is weaker than that of the other two variables. The positive relation with the wage is questionable, because it is found not to be significant in non-profit organizations. However, it is possible to retain this relation because it turns out to be significant for the entire set of organizations. The crucial component representing fairness is lacking in the traditional formulation and needs to be added. On the other hand, the happiness component departs quite sharply from the traditional utility functions:

$$S_h = S(f) \text{ where } \frac{\partial S_h}{\partial f} > 0$$

Monetary remuneration and effort are no longer significant.<sup>24</sup> When the overall degree of workers' well-being is considered, effort and fairness retain their significance while the influence of the wage depends crucially on institutional factors since it is significant only in the public sector:

$$U = U(w, e, f) \quad \text{where} \quad \frac{\partial U}{\partial w} = ?, \quad \frac{\partial U}{\partial e} < 0 \quad \text{and} \quad \frac{\partial U}{\partial f} < 0$$

The results are compatible with at least two interpretations of the relation between the wage and worker utility. In the first one, monetary remuneration enters the utility function as a mere acceptance level given by the participation constraint. Workers require a minimum amount of monetary remuneration, which is basically the opportunity cost of the time consumed on the job. Below this threshold level they refuse to work. Over and above the threshold, the level of monetary remuneration loses its ability to influence worker well-being (Borzaga and Depedri, 2005), and other factors, such as fairness, acquire momentum. The second hypothesis, a more refined version of the first, states that the marginal rate of substitution between the wage and fairness is very low. Hence, in order to increase utility over the threshold level for the wage, a very high increase in monetary remuneration is needed, while fairness is more effective. Given the financial constraints faced by organizations, policies devoted to increasing the degree of fairness of procedures and distribution are likely to be more effective in improving well-being and loyalty. Also this second hypothesis is supported by the data concerning wages in the Italian social service sector, since organizations in the public sector pay the highest wages, but workers are the least satisfied. In this regard, it is quite possible that the public sector suffers the lower level of perceived fairness. The wage increases necessary to close the gap in worker satisfaction

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<sup>24</sup> The influence of the number of absences over the year on happiness is not considered because of its ambiguous meaning: the preceding analysis highlighted that this variable can proxy effort but also disaffection with the organization.

may not be compatible with financial equilibrium.<sup>25</sup>

## 7. Concluding remarks

Theoretical work on the role of fair economic behavior has grown considerably in the last decades. Crucial advances have been made at theoretical level and in laboratory experiments. However, empirical tests of the theories of fairness within organizational settings have not been so exhaustive to date. Important tests have been conducted on relative status deprivation and group cohesiveness in for profit-enterprises. Comparative analysis of fairness is restricted to the role of wage dispersion, while very limited empirical tests have been performed on the non-monetary components of fairness, such as the procedural ones. Furthermore, the linkage between workers' on-the-job well-being and fairness, beyond comparison wage rates, has never been investigated to date.

The concept of fairness used in this study comprises also non-monetary aspects of the job, such as the procedural ones, by introducing and assessing the relevance of the non-instrumental component in human behavior. The data, which refer to the Italian social service sector, are based on workers' self-reports on the work environment and can be interpreted as the degree of fairness perceived in the organization. Satisfaction with the work, specified in one material and in one immaterial component, and loyalty, are used as success variables depending also on workers' socio-demographic features and on organizational characteristics. The influence of the wage and

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<sup>25</sup> This result is confirmed in a different way by the study by Oswald (1997, p. 1821) on unemployment: "... research suggests that the worst thing about losing one's job is not the drop in take-home income. It is the non-pecuniary distress. To put this differently, most regression results imply that an enormous amount of extra income would be required to compensate people for having no work". If the loss of the job is interpreted in terms of unfair outcomes, the two results become equivalent.

effort is evaluated together with that of fairness. The use of subjective evaluations concerning both satisfaction and fairness is justified by the lack of objective data and by the increasing consensus on the robustness of results based on subjective self-reports. Furthermore, a second subjective proxy for well-being (loyalty) is also used, yielding very similar results, at least in the case of fairness. The results evidence a crucial role by fairness concerns in influencing workers' well-being. Fairness, mainly in its procedural component, emerges as the most important determinant of workers' satisfaction and loyalty, while its role has been at the very least underestimated by past theoretical research, which considered only worker effort and the wage. The former proves to be of importance, while the influence of the latter is weaker and depends on the organizational form.

Differences between organizational forms also appear to be relevant, justifying the idea that different forms are characterized by different organizational protocols and incentive mixes. If worker satisfaction is accepted as a relevant policy variable, attention should be paid to the way in which different organizational forms satisfy their workforces, and fairness emerges as a crucial feature in this respect. The perception of fairness is low in public organizations, but neither is it high in non-profit organizations. Organizations better able to satisfy workers' desire for fairness will be able significantly to affect their well-being and, possibly, compliance with organizational objectives, over and above the effect of monetary incentives. In this respect, fairer organizational protocols also represent an element of competitive advantage replete with policy implications. Comparatively, nonprofits appear to be better suited than public sector organizations, at least in the social service sector. Future research will require broader comparisons which also include for-profit enterprises and different sectors.

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## **Appendix A. Questions**

### **SECTION II - Loyalty**

D38 What are your future intentions regarding your work for this organization?

8. I intend to stay with the organization as long as possible
9. I intend to stay with the organization for some years
10. I shall leave the organization if a better opportunity presents itself in the same sector
11. I shall leave the organization if a better opportunity presents itself even in a different sector
12. Whatever happens, I shall leave the organization as soon as I can

### **SECTION III – Satisfaction**

INSTRUCTIONS: We would now ask you to give an assessment of your work for the organization.

Please answer the following questions by marking the number you choose with a cross.

#### **To what extent are you satisfied with:**

*Assessment on a scale from 1 (dissatisfied) to 7 (very satisfied)*

1. Your work as a whole
2. The opportunities for training/professional development offered by the organization
3. The amount of decision-making/functional freedom given to you
4. Appreciation of your work by others
5. The variety and creativity of your work
6. Your physical work environment (safety, comfort, etc.)
7. The usefulness of your work for the beneficiaries of the services provided
8. Your salary
9. Your working hours
10. Your career advancement thus far in the organization
11. Your future prospects of career advancement in the organization
12. Your job security
13. Your relationships with your superiors
14. Your relationships with your paid work colleagues
15. Your relationships with your voluntary work colleagues

#### **SECTION IV – The work environment**

INSTRUCTIONS: There now follows a series of statements about the work environment of an organization.

Please state the extent to which the following statements describe features of the organization for which you work, marking the number you choose with a cross.

*Assessment on a scale from 1 (not at all) to 7 (entirely)*

1. In this organization workers are paid according to the quality and quantity of the results produced
2. In this organization workers are told everything they need to know in order to do their work properly
3. In this organization employees who do their jobs well have good prospects of professional development and career advancement
4. My superiors pay close attention to my ideas and suggestions
5. In this organization workers are given opportunities to improve their skills
6. In this organization promotions are decided in order to help the best workers to reach the highest positions
7. The workers of this organization would be more committed to their work if they were paid better
8. In this organization you often work in sub-standard safety conditions
9. Working for this organization causes stress and tension

#### **SECTION V – Treatment by the organization**

INSTRUCTIONS: The purpose of this section is to find out what you think about your economic treatment by the organization in relation to certain aspects.

Please assess each of the following statements by marking the number you choose with a cross.

##### **To what extent do you feel adequately paid...**

*Assessment on a scale from 1 (not at all) to 7 (entirely)*

- ...considering the responsibilities that you have
- ... considering your qualifications and training
- ... considering your experience
- ... considering your commitment
- ... considering the quality of your work
- ... considering the stress and tension caused by your work
- ... considering the economic circumstances of the organization

**Appendix B.**

Grouping the items of satisfaction (principal components analysis)<sup>a</sup>

Rotated Component Matrix	<u>Component</u>		
	1	2	3
	<u>relational and extrinsic incentives</u>	<u>intrinsic incentives</u>	<u>economic incentives</u>
<u>professional development</u>		.664	
<u>decision-making autonomy</u>		.712	
<u>recognition of one's contribution</u>		.688	
<u>variety and creativity of the job</u>		.713	
<u>working environment</u>	.568		
<u>the social usefulness of the job</u>		.486	
<u>the salary</u>	.485		.494
<u>working hours</u>	.636		
<u>previous career advancements</u>			.842
<u>future career advancements</u>			.833
<u>job security</u>	.694		
<u>relations with superiors</u>	.639		
<u>relations with colleagues</u>	.647		

Rotation Method: Varimax with Kaiser Normalization.

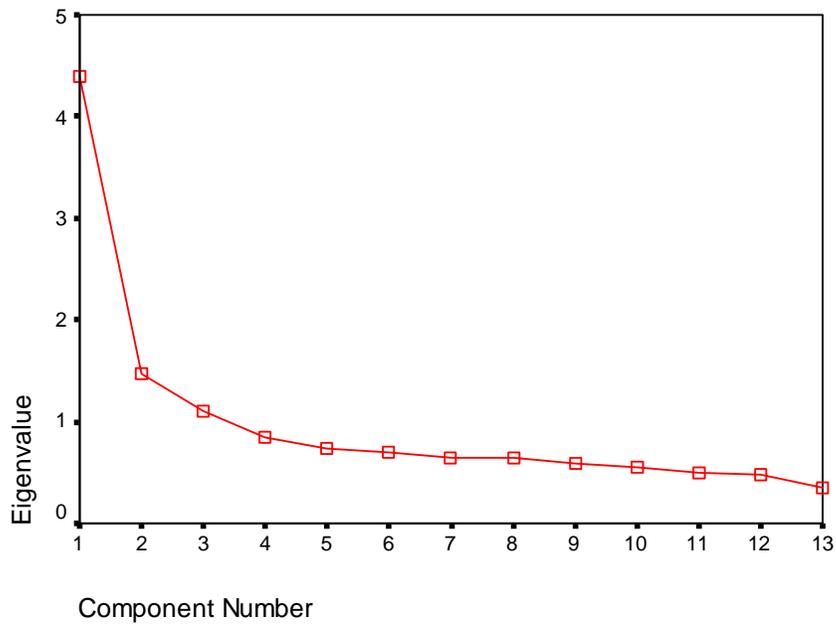
a Rotation converged in 5 iterations.

## Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.392	33.783	33.783	2.557	19.666	19.666
2	1.476	11.355	45.138	2.514	19.337	39.003
3	1.096	8.429	53.567	1.893	14.564	53.567

Extraction Method: Principal Component Analysis.

## Scree Plot



**Component Matrix(a)**

	Component		
	1	2	3
<u>Professional development</u>	.629		
<u>decision-making autonomy</u>	.642		-.364
<u>Recognition of one's contribution</u>	.669		-.330
<u>variety and creativity of the job</u>	.601		-.406
<u>working environment</u>	.621		
<u>the social usefulness of the job</u>	.526		
<u>the salary</u>	.548		.423
<u>working hours</u>	.586		
<u>previous career advancements</u>	.541	-.615	.303
<u>future career advancements</u>	.525	-.615	
<u>job security</u>	.444	.451	
<u>relations with superiors</u>	.633	.320	
<u>relations with colleagues</u>	.551	.405	

Extraction Method: Principal Component Analysis.

- a. 3 components extracted.

Table 1. Organizational typologies and their workers

	<u>Organizations</u>		<u>Workers</u>	
	No.	Percent	No.	Percent
Public ownership	54	23.7	585	28.3
Non-profit	157	68.9	1193	57.7
Other*	17	7.4	288	13,9
<u>Total</u>	228	100	2066	100

This category encloses for-profit firms (17 organizations and 180 workers, plus 108 cases for which the organizational form was not recorded).

Table 2. Workers' characteristics (*average*)

	<u>Total</u>	<u>Public ownership</u>	<u>Nor-profit</u>	<u>Other</u>
<u>Gender</u>				
Male	0.229	0.156	0.284	0.149
Female	0.771	0.844	0.716	0.851
<u>Age</u>				
Up to 30 years old	0.388	0.267	0.447	0.389
31 to 50 years old	0.495	0.610	0.439	0.493
51 or older	0.117	0.123	0.114	0.118
<u>Educational attainment</u>				
Up to lower intermediate diploma	0.268	0.223	0.261	0.390
High-school diploma	0.567	0.647	0.542	0.509
University degree or higher	0.165	0.130	0.197	0.101
<u>Specific training</u>	0.585	0.744	0.508	0.438
<u>Contractual relation</u>				
<u>Part-time</u>	0.248	0.256	0.244	0.194
Full-time	0.752	0.744	0.756	0.806

Table 3. Workers' pay in the social services sector (average values in Euros)

	<u>Total</u>	<u>Public</u> <u>ownership</u>	<u>Nor-profit</u>	<u>Other</u>
<u>Monthly pay (full-time)***</u>	774.39	852,96	733,05	788,44
Standard deviation	212,24	229,31	199,03	178,21
<u>Standard deviation/Monthly pay</u>	0,274	0,269	0,272	0,226
<u>Hourly pay (full-time)***</u>	5.43	5,82	5,13	5,27
Standard deviation	2,21	1,50	1,38	1,34
<u>Standard deviation/Hourly pay</u>	0,407	0,258	0,270	0,254

(\*\*\*) ANOVA significant at the 1% level

- (a) Standard deviation for hourly wages was calculated by eliminating outlying values above 20 Euros per hour worked. This adjustment reduced dispersion in the non-profit sector, but not in the public sector.

Table 4. Workers' effort proxied by number of extra work-hours and absentee workdays

	<u>Total</u>	<u>Public</u>	<u>ownership</u>	<u>Nor-profit</u>	<u>Other</u>
Effective weekly work-hours in excess of contractual weekly work-hours*	1.324	1.316		1.424	0.928
Number of non-vacation absentee work-days over the year***	11.036	15.986		8.827	10.100

(\*) (\*\*\*) ANOVA significant respectively at the 10% level and at the 1% level

Table 5. Worker satisfaction (average)<sup>a</sup>

<u>Satisfaction with ...</u>	<u>Total</u>	<u>Public</u> <u>ownership</u>	<u>Nor-profit</u>	<u>Other</u>
<u>The job as a whole</u>	5.268	4.995	5.368	5.402
<u>Items of material satisfaction</u>				
<u>work environment***</u>	4.475	4.049	4.612	4.778
<u>wage*</u>	4.070	3.996	4.064	4.247
<u>working hours***</u>	4.810	4.573	4.962	4.653
<u>past career advancement***</u>	3.744	2.407	3.443	3.023
<u>future career advancements***</u>	2.931	2.215	3.275	2.893
<u>job security***</u>	4.699	4.699	4.561	5.270
<u>Material utility (average)***</u>	4.056	3.593	4.171	4.213
<u>Items of happiness</u>				
<u>professional development***</u>	4.504	4.138	4.789	4.048
<u>decision-making autonomy***</u>	4.360	3.947	4.599	4.188
<u>recognition of one's contribution***</u>	4.540	4.138	4.759	4.444

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<u>variety and creativity of the job***</u>	4.631	4.382	4.820	4.346
<u>the usefulness of the job for beneficiaries</u>	5.313	5.190	5.364	5.351
<u>relations with superiors***</u>	5.169	4.677	5.361	5.359
<u>relations with colleagues***</u>	5.514	5.211	5.622	5.672
<u>relations with volunteers***</u>	4,475	4.085	4.575	4.575
<u>Happiness (average)***</u>	4.843	4.530	5.014	4.771
<u>Average, all items of satisfaction</u>	4.500	4.187	4.646	4.534

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(<sup>a</sup>)The interviewees chose a value on a scale from 1 (minimum) to 7 (maximum).

(\*\*\*), (\*), ANOVA significant respectively at the 1% level and 10% level

Table 6. Loyalty to the organization (percent)

	<u>Total</u>	<u>Public ownership</u>	<u>Nor-profit</u>	<u>Other</u>
<u>Intend to stay as long as possible</u>	0.518	0.446	0.542	0.564
<u>Intend to stay at least for some years</u>	0.134	0.127	0.143	0.113
<u>Quit the organization if a better job opportunity in the same sector is found</u>	0.162	0.216	0.141	0.142
<u>Quit the organization if a better job opportunity also in a different in sector is found</u>	0.170	0.175	0.167	0.177
<u>Leave the organization as soon as possible</u>	0.015	0.037	0.008	0.004

Table 7. Items of distributive fairness in relations (average scores) <sup>a</sup>

	<u>Total</u>	<u>Public</u> <u>ownership</u>	<u>Nor-profit</u>	<u>Other</u>
Responsibility***	3.977	3.545	4.190	3.971
Training***	3.989	3.582	4.185	4.004
Experience***	3.979	3.580	4.142	4.107
Effort***	3.818	3.361	4.017	3.919
Quality of the work***	3.885	3.431	4.078	4.007
Stress and tension***	3.401	2.991	3.633	3.274
Economic resources of the organization***	4.211	3.457	4.690	3.709
<u>Average score ***</u>	3.926	3.450	4.169	3.878

(<sup>a</sup>)The interviewees chose a value on a Lickert scale from 1 (minimum) to 7 (maximum).

(\*\*\*) ANOVA significant at the 1% level

Table 8. Items of procedural fairness (average scores)<sup>a</sup>

	<u>Total</u>	<u>Public</u> <u>ownership</u>	<u>Nor-profit</u>	<u>Other</u>
Balance incentives/contribution***	3.068	2.428	3.324	3.265
Communication***	4.461	3.817	4.693	4.773
Professional growth and career***	3.126	2.204	3.576	3.080
Being listened to***	4.065	3.239	4.452	4.090
Growth of skills and capabilities***	4.098	3.300	4.527	3.879
Transparency of promotions***	2.946	2.078	3.356	2.968
<u>Average score***</u>	3.674	2.892	4.033	3.729

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(<sup>a</sup>)The interviewees chose a value on a Lickert scale from 1 (minimum) to 7 (maximum).

(\*\*\*) ANOVA significant at the 1% level

**Table 9. Worker well-being and fairness. All organizations**

Variables	Average satisfaction with the job (linear regression)			Material satisfaction (linear regression)			Happiness (linear regression)			Overall satisfaction with the job (ordered logit)		
	Coeff.	t	P> t	Coeff.	t	P> t	Coeff.	t	P> t	Odds Ratio	z	P> z
Gender <sup>c</sup>	<b>0.086</b>	<b>2.10</b>	<b>0.036</b>	<b>0.119</b>	<b>2.33</b>	<b>0.020</b>	0.040	0.85	0.394	1.146	1.40	0.161
Age (years) <sup>a</sup>	0.003	1.33	0.182	-0.002	-0.66	0.507	<b>0.006</b>	<b>2.51</b>	<b>0.012</b>	1.008	1.60	0.111
High-school diploma <sup>c</sup>	0.039	0.94	0.348	-0.101	-1.96	0.050	<b>0.165</b>	<b>3.46</b>	<b>0.001</b>	1.054	0.52	0.605
University degree or higher <sup>c</sup>	0.028	0.50	0.615	<b>-0.186</b>	<b>-2.72</b>	<b>0.007</b>	<b>0.201</b>	<b>3.18</b>	<b>0.002</b>	<b>0.775</b>	<b>-1.94</b>	<b>0.053</b>
Specific training <sup>c</sup>	<b>-0.138</b>	<b>-3.34</b>	<b>0.001</b>	<b>-0.088</b>	<b>-1.72</b>	<b>0.086</b>	<b>-0.174</b>	<b>-3.64</b>	<b>0.000</b>	<b>0.624</b>	<b>-4.83</b>	<b>0.000</b>
Open-end contract <sup>c</sup>	0.044	1.11	0.266	<b>0.302</b>	<b>6.17</b>	<b>0.000</b>	<b>-0.142</b>	<b>-3.12</b>	<b>0.002</b>	0.884	-1.31	0.192
Tenure in the organization (years) <sup>a</sup>	0.004	1.46	0.144	<b>0.008</b>	<b>2.50</b>	<b>0.013</b>	0.001	0.34	0.731	1.000	0.01	0.990
Log-Age organization (years)	<b>0.064</b>	<b>2.84</b>	<b>0.005</b>	<b>0.135</b>	<b>4.80</b>	<b>0.000</b>	0.002	0.06	0.951	1.063	1.13	0.256
Log-Size of the organization (number of employees)	<b>-0.067</b>	<b>-4.32</b>	<b>0.000</b>	<b>-0.061</b>	<b>-3.18</b>	<b>0.001</b>	<b>-0.069</b>	<b>-3.87</b>	<b>0.000</b>	<b>0.929</b>	<b>-1.98</b>	<b>0.048</b>
Effort (extra hours worked)	<b>-0.007</b>	<b>-2.01</b>	<b>0.045</b>	<b>-0.021</b>	<b>-4.52</b>	<b>0.000</b>	0.003	0.70	0.482	0.997	-0.36	0.716
Number of absences over the year	0.001	1.56	0.118	0.000	0.76	0.448	<b>0.001</b>	<b>1.96</b>	<b>0.050</b>	<b>1.003</b>	<b>2.28</b>	<b>0.022</b>
Hourly wage <sup>a</sup>	0.006	0.77	0.444	<b>0.021</b>	<b>2.06</b>	<b>0.039</b>	-0.007	-0.71	0.480	0.99	-0.53	0.598
Distributive fairness <sup>b</sup>	<b>0.162</b>	<b>12.40</b>	<b>0.000</b>	<b>0.213</b>	<b>13.15</b>	<b>0.000</b>	<b>0.115</b>	<b>7.63</b>	<b>0.000</b>	<b>1.281</b>	<b>7.61</b>	<b>0.000</b>
Procedural fairness <sup>d</sup>	<b>0.411</b>	<b>30.36</b>	<b>0.000</b>	<b>0.401</b>	<b>23.86</b>	<b>0.000</b>	<b>0.409</b>	<b>26.24</b>	<b>0.000</b>	<b>1.670</b>	<b>14.76</b>	<b>0.000</b>
Constant	<b>2.208</b>	<b>13.34</b>	<b>0.000</b>	<b>0.901</b>	<b>4.39</b>	<b>0.000</b>	<b>3.301</b>	<b>17.30</b>	<b>0.000</b>			
	Number of obs. = 2061 Prob > F = 0.0000 R-squared = 0.5244			Number of obs. = 2061 Prob > F = 0.0000 R-squared = 0.4568			Number of obs. = 2061 Prob > F = 0.0000 R-squared = 0.4241			Number of obs. = 2061 Log likelihood = -3254.5831 LR chi2 (14) = 584.09 Prob > chi2 = 0.0000		

**Table 10. Worker well-being and fairness. Public sector**

Variables	Average satisfaction with the job (linear regression)			Material satisfaction (linear regression)			Happiness (linear regression)			Overall satisfaction with the job (ordered logit)		
	Coeff.	t	P> t	Coeff.	t	P> t	Coeff.	t	P> t	Odds Ratio	z	P> z
Gender <sup>c</sup>	0.061	0.65	0.518	0.077	0.70	0.484	0.039	0.34	0.736	1.323	1.33	0.184
Age (years) <sup>a</sup>	0.007	1.57	0.118	0.000	0.01	0.992	<b>0.014</b>	<b>2.45</b>	<b>0.015</b>	1.015	1.31	0.190
High-school diploma <sup>c</sup>	-0.022	-0.25	0.801	<b>-0.174</b>	<b>-1.72</b>	<b>0.085</b>	0.094	0.89	0.373	0.944	-0.27	0.786
University degree or higher <sup>c</sup>	-0.116	-0.93	0.353	<b>-0.360</b>	<b>-2.49</b>	<b>0.013</b>	0.038	0.25	0.802	<b>0.516</b>	<b>-2.27</b>	<b>0.023</b>
Specific training <sup>c</sup>	<b>-0.212</b>	<b>-2.31</b>	<b>0.021</b>	-0.092	-0.87	0.384	<b>-0.280</b>	<b>-2.52</b>	<b>0.012</b>	<b>0.541</b>	<b>-2.97</b>	<b>0.003</b>
Open-end contract <sup>c</sup>	-0.101	-1.27	0.206	<b>0.210</b>	<b>2.29</b>	<b>0.023</b>	<b>-0.300</b>	<b>-3.13</b>	<b>0.002</b>	<b>0.543</b>	<b>-3.21</b>	<b>0.001</b>
Tenure in the organization (years) <sup>a</sup>	0.006	1.21	0.226	<b>0.015</b>	<b>2.52</b>	<b>0.012</b>	-0.003	-0.41	0.685	1.003	0.22	0.824
Log-Age organization (years)	0.039	0.76	0.446	0.085	1.43	0.152	-0.013	-0.21	0.835	0.947	-0.48	0.630
Log-Size of the organization (number of employees)	<b>-0.152</b>	<b>-4.13</b>	<b>0.000</b>	<b>-0.151</b>	<b>-3.54</b>	<b>0.000</b>	<b>-0.155</b>	<b>-3.48</b>	<b>0.001</b>	0.957	-0.52	0.604
Effort (extra hours worked)	<b>-0.015</b>	<b>-1.65</b>	<b>0.100</b>	<b>-0.038</b>	<b>-3.71</b>	<b>0.000</b>	0.003	0.31	0.759	0.979	-1.08	0.279
Number of absences over the year	<b>0.001</b>	<b>1.65</b>	<b>0.099</b>	0.001	1.48	0.141	0.001	1.41	0.159	<b>1.004</b>	<b>2.16</b>	<b>0.031</b>
Hourly wage <sup>a</sup>	<b>0.039</b>	<b>1.78</b>	<b>0.075</b>	<b>0.071</b>	<b>2.79</b>	<b>0.005</b>	0.018	0.69	0.493	1.034	0.64	0.525
Distributive fairness <sup>b</sup>	<b>0.158</b>	<b>6.48</b>	<b>0.000</b>	<b>0.223</b>	<b>7.93</b>	<b>0.000</b>	<b>0.094</b>	<b>3.21</b>	<b>0.001</b>	<b>1.155</b>	<b>2.51</b>	<b>0.012</b>
Procedural fairness <sup>d</sup>	<b>0.422</b>	<b>15.44</b>	<b>0.000</b>	<b>0.351</b>	<b>11.09</b>	<b>0.000</b>	<b>0.451</b>	<b>13.63</b>	<b>0.000</b>	<b>1.991</b>	<b>9.74</b>	<b>0.000</b>
Constant	<b>2.648</b>	<b>6.83</b>	<b>0.000</b>	<b>1.350</b>	<b>3.01</b>	<b>0.003</b>	<b>3.735</b>	<b>7.96</b>	<b>0.000</b>			
	Number of obs. = 582 Prob > F = 0.0000 R-squared = 0.5120			Number of obs. = 582 Prob > F = 0.0000 R-squared = 0.4573			Number of obs. = 582 Prob > F = 0.0000 R-squared = 0.4005			Number of obs. = 567 Log likelihood = -881.88638 LR chi2 (14) = 202.94 Prob > chi2 = 0.0000		

**Table 11. Worker well-being and fairness. Non-profit organizations**

Variables	Average satisfaction with the job (linear regression)			Material satisfaction (linear regression)			Happiness (linear regression)			Overall satisfaction with the job (ordered logit)		
	Coeff.	t	P>[t]	Coeff.	t	P>[t]	Coeff.	t	P>[t]	Odds Ratio	z	P> z
Gender <sup>c</sup>	<b>0.111</b>	<b>2.28</b>	<b>0.023</b>	<b>0.143</b>	<b>2.28</b>	<b>0.023</b>	0.066	1.20	0.229	1043	0.35	0.724
Age (years) <sup>a</sup>	0.002	0.66	0.510	-0.005	-1.41	0.158	<b>0.006</b>	<b>2.08</b>	<b>0.037</b>	1.010	1.48	0.138
High-school diploma <sup>c</sup>	<b>0.095</b>	<b>1.77</b>	<b>0.077</b>	-0.080	-1.16	0.245	<b>0.256</b>	<b>4.26</b>	<b>0.000</b>	<b>1.271</b>	<b>1.73</b>	<b>0.083</b>
University degree or higher <sup>c</sup>	0.076	1.15	0.252	<b>-0.161</b>	<b>-1.87</b>	<b>0.062</b>	<b>0.270</b>	<b>3.61</b>	<b>0.000</b>	1.033	0.19	0.847
Specific training <sup>c</sup>	<b>-0.137</b>	<b>-2.67</b>	<b>0.008</b>	-0.073	-1.09	0.275	<b>-0.190</b>	<b>-3.30</b>	<b>0.001</b>	<b>0.576</b>	<b>-4.32</b>	<b>0.000</b>
Open-end contract <sup>c</sup>	<b>0.090</b>	<b>1.78</b>	<b>0.075</b>	<b>0.293</b>	<b>4.50</b>	<b>0.000</b>	-0.063	-1.12	0.262	1.080	0.62	0.537
Tenure in the organization (years) <sup>a</sup>	0.003	0.72	0.469	0.006	1.26	0.209	0.002	0.49	0.624	1.001	0.08	0.936
Log-Age organization (years)	<b>0.086</b>	<b>2.86</b>	<b>0.004</b>	<b>0.216</b>	<b>5.57</b>	<b>0.000</b>	-0.017	-0.51	0.613	1.074	0.95	0.341
Log-Size of the organization (number of employees)	<b>-0.055</b>	<b>-3.07</b>	<b>0.002</b>	<b>-0.064</b>	<b>-2.76</b>	<b>0.006</b>	<b>-0.044</b>	<b>-2.19</b>	<b>0.028</b>	<b>0.895</b>	<b>-2.44</b>	<b>0.015</b>
Effort (extra hours worked)	-0.005	-1.28	0.199	<b>-0.015</b>	<b>-2.74</b>	<b>0.006</b>	0.002	0.42	0.672	0.997	-0.27	0.784
Number of absences over the year	0.000	0.33	0.740	-0.001	-0.85	0.396	0.001	1.49	0.137	1.001	0.71	0.476
Hourly wage <sup>a</sup>	0.001	0.09	0.931	0.010	0.66	0.507	-0.011	-0.88	0.380	0.977	-0.83	0.405
Distributive fairness <sup>b</sup>	<b>0.169</b>	<b>9.88</b>	<b>0.000</b>	<b>0.218</b>	<b>9.89</b>	<b>0.000</b>	<b>0.125</b>	<b>6.51</b>	<b>0.000</b>	<b>1.342</b>	<b>6.59</b>	<b>0.000</b>
Procedural fairness <sup>d</sup>	<b>0.387</b>	<b>21.53</b>	<b>0.000</b>	<b>0.400</b>	<b>17.21</b>	<b>0.000</b>	<b>0.375</b>	<b>18.56</b>	<b>0.000</b>	<b>1.655</b>	<b>10.51</b>	<b>0.000</b>
Constant	<b>2.071</b>	<b>10.43</b>	<b>0.000</b>	<b>0.713</b>	<b>2.78</b>	<b>0.006</b>	<b>3.189</b>	<b>14.31</b>	<b>0.000</b>			
	Number of obs. = 1181 Prob > F = 0.0000 R-squared = 0. 5113			Number of obs. = 1181 Prob > F = 0.0000 R-squared = 0. 4498			Number of obs. = 1181 Prob > F = 0.0000 R-squared = 0. 4101			Number of obs. = 1181 Log likelihood = -1815.237 LR chi2 (14) = 350.46 Prob > chi2 = 0.0000		

**Table 12. Worker loyalty to the organization and fairness (ordered logit estimates)**

Variables	All organizations			Public sector			Non-profit organizations		
	Odds ratios	Z	P> Z	Odds ratios	Z	P> Z	Odds ratios	Z	P> Z
Gender <sup>c</sup>	1.074	0.67	0.501	1.126	0.54	0.590	1.087	0.62	0.532
Age (years) <sup>a</sup>	<b>1.032</b>	<b>5.53</b>	<b>0.000</b>	<b>1.032</b>	<b>2.69</b>	<b>0.007</b>	<b>1.035</b>	<b>4.70</b>	<b>0.000</b>
High-school diploma <sup>c</sup>	<b>0.631</b>	<b>-4.16</b>	<b>0.000</b>	0.758	-1.29	0.198	<b>0.634</b>	<b>-3.01</b>	<b>0.003</b>
University degree or higher <sup>c</sup>	<b>0.58</b>	<b>-3.82</b>	<b>0.000</b>	<b>0.46</b>	<b>-2.67</b>	<b>0.008</b>	<b>0.688</b>	<b>-2.00</b>	<b>0.046</b>
Specific training <sup>c</sup>	0.953	-0.46	0.645	1.286	1.17	0.242	<b>0.77</b>	<b>-1.89</b>	<b>0.058</b>
Open-end contract <sup>c</sup>	0.97	-0.30	0.765	<b>0.729</b>	<b>-1.66</b>	<b>0.097</b>	1.194	1.30	0.192
Tenure in the organization (years) <sup>a</sup>	1.003	0.42	0.677	0.998	-0.12	0.903	1.017	1.59	0.112
Log-Age of organization (years)	107	1.14	0.255	1.118	0.95	0.344	0.956	-0.55	0.581
Log-Size of the organization (number of employees)	<b>0.93</b>	<b>-1.88</b>	<b>0.060</b>	<b>0.855</b>	<b>-1.87</b>	<b>0.062</b>	0.937	-1.37	0.171
Effort (extra hours worked)	0.995	-0.55	0.580	<b>0.951</b>	<b>-2.33</b>	<b>0.020</b>	1.006	0.54	0.587
Number of absences over the year	<b>0.997</b>	<b>-2.70</b>	<b>0.007</b>	0.998	-1.05	0.294	<b>0.996</b>	<b>-2.16</b>	<b>0.031</b>
Hourly wage <sup>a</sup>	0.985	-0.76	0.448	0.965	-0.76	0.450	0.97	-1.07	0.285
Distributive fairness <sup>b</sup>	<b>1.290</b>	<b>7.43</b>	<b>0.000</b>	<b>1.331</b>	<b>4.84</b>	<b>0.000</b>	<b>1.256</b>	<b>4.76</b>	<b>0.000</b>
Procedural fairness <sup>d</sup>	<b>1.327</b>	<b>7.90</b>	<b>0.000</b>	<b>1.128</b>	<b>1.84</b>	<b>0.066</b>	<b>1.502</b>	<b>7.94</b>	<b>0.000</b>
	Number of obs. = 2061 Log likelihood = -2466.4848 LR chi2 (14) = 361.66 Prob > chi2 = 0.0000			Number of obs. = 582 Log likelihood = -769.61562 LR chi2 (14) = 93.56 Prob > chi2 = 0.0000			Number of obs. = 1181 Log likelihood = -1334.1554 LR chi2 (14) = 261.31 Prob > chi2 = 0.0000		

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