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

Abstract

Exploiting a unique data set created in 1998 on a sample of 228 public, nonprofit and for-profit organizations working in the social service sector, and on 2066 workers, the paper seeks to demonstrate that workers' satisfaction and loyalty are crucially influenced by fairness concerns. A higher degree of perceived fairness is found to increase worker well-being, and the effect is maximum in the case of procedural fairness. The analysis of the impact of fairness in different organizational forms reveals that the public sector is at a disadvantage, both in the level of satisfaction with the job and as long as perceived fairness is concerned. Nonprofit organizations, and especially social cooperatives, show the highest degree of perceived fairness on the most part of the items considered. The difference between social cooperatives and all the other organizational forms becomes significant in the realm of procedural fairness, probably due to a higher degree of worker involvement and to a more democratic governance.

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

JEL classification: J81, L31, P50

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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 represent one of 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 worker on-the-job well-being, as a proxy for worker utility,¹ 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 organizations in the Italian social service sector.

The dataset, which will be fully described in section 4, reports information about worker satisfaction and loyalty, and worker perceived fairness in the Italian social service sector. Supplementary information concerns socio-demographic, individual and organizational aspects. Workers' perceived satisfaction with the job and loyalty to the organization are used as success indicator and the influence of perceived fairness is assessed. The objective is to cover some distance in the gap separating theoretical elaboration and empirical testing.

Non-profit and public organizations² are compared highlighting the main differences in socio-demographic, organizational features and in workers' perceptions. Institutional differences

¹ Well-being can be represented formally by an utility function. This analytical tool will be introduced in an appreciative way, without developing a full-fledged formal model.

² The Italian social service sector encloses also a little quota of for-profit organization. They host about 7% of the workforce in the whole sector. Since the dominant organizational forms are non-profit and public organizations, and the data at our disposal would not allow us a satisfactory analysis of for-profit firms, the analysis will be restricted to the former two categories.

between public and non-profit organizations are introduced and discussed given their purported relevance, which indeed is fully confirmed by the present study. Hence the comparative analysis in the last part of the work. Publicly-owned organizations are controlled by administrative authorities and are characterized by greater monetary remuneration for workers than in nonprofits, and quite rigid hierarchical structures governed by public managers. Non-profit organizations are characterized by a stated social mission, which is underpinned by the non-profit distribution constraint (Hansmann, 1988, 1996). 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 limited and pay rates are correlated more to functional differentiation than to hierarchical positions.³

Nonprofits are likely to constitute a privileged setting for testing the relevance of fairness. The reason is threefold: first, non-selfish motives are likely to be dominant in non-profit organizations (Hansmann, 1980; Preston, 1989; Rose-Ackerman, 1996; Frank, 1996). Correspondingly, many empirical studies on fairness deal with non-profit organizations. Second, the dataset used in this study records data concerning a sector where nonprofits have the largest weight. Finally, non-profit organizations are often found to pay lower salaries, and fairness may be a crucial part of the incentive mix they offer in order to motivate workers anyway (Mirvis, 1992; Borzaga and Tortia,

³ In the dataset at hand, non-profit organizations can be further sorted into three typologies: religious nonprofits, other lay (or non-religious) nonprofits, and social cooperatives. This more refined distinction will not be made explicit in order not to widen too much the scope of the analysis. The structural-operational definition suggested by Anheier and Salomon (1992) proves sufficient. In this definition, non-profit organizations share some important characteristics: they are formal, private, nonprofit-distributing, self-governing, voluntary, and mission oriented. Furthermore, often nonprofit are supported by volunteer work, a variable that will enter the empirical analysis in later chapters. The presence of volunteers is rarer in the public sector, and absent in private for-profit firms.

2005).

A stringent 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. Here, a different approach will be adopted, one which uses self-reported satisfaction scores, willingness to stay and perceived fairness as explained and explanatory variables. This may not be the standard methodology in economics, but satisfaction measures are increasingly accepted as suitable proxies for utility (Oswald, 1997; Frey and Stutzer, 2002). Moreover, the willingness to stay with the organization adds an indirect measure of on-the-job well-being.⁴

The paper is organized as follows: after the introduction, Section 2 surveys briefly the

⁴ At the theoretical and experimental level, the study of fair behavior has acquired paramount importance in recent times. Three streams can be singled out. A first stream tries and explains fairness starting from purely self-seeking behavior. In a recent volume, Binmore (2005) explains fair behavior and 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 being kind when she is treated kindly, and being unkind when she is treated unkindly (Rabin, 1993). The third stream, near to the behavioral approach to economics, agrees with the second that individual behavior cannot be understood exclusively on the basis of self-seeking preferences (Ben-Ner and Putterman, 1999; Gintis, 2005; Seabright, 2005), but it goes beyond fairness as reciprocity since it proceeds to explicitly working out intrinsic motivations, and distinguishing them from extrinsic motivations (Deci, 1975; Deci and Ryan, 1985). In this stream, Ben-Ner and Putterman (1999) describe individual behavior as led by three different types of preferences: 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, conditionally on the expectation of alike compliance by other agents. Conformist preferences are taken to characterize organizations such as the non-profit ones, where the profit motive, hence self-seeking preferences, are not dominant.

literature concerning fairness in organizational settings, Section 3 introduces the theoretical scheme underpinning the study; Section 4 introduces the empirical part describing the behavior of the relevant variables; Section 5 discusses the measures of procedural and distributive fairness used in the econometric elaboration. The empirical analysis concerning the factors influencing workers' satisfaction and loyalty is presented in Section 6 and in Section 7 respectively. Empirical findings are then discussed in Section 8 and Section 9 concludes.

2. Fairness in organizational settings: the record to date

The assessment of the role of fairness in organizations arose in connection with the study of pay structures, relative wages, and reference wages. It was first studied by Akerlof and Yellen (1984, 1990). Starting from a critique of efficiency wages, they highlighted the role of gift exchange and reciprocity between employers and employees, and of fair wages, to correct the inability of traditional microeconomic models to account for higher than minimum work effort and wages above marginal products. The role of fair treatment was to increase worker morale and, this way, effort. Frank (1984) argues that egalitarian internal wage structures arise because of "equity" considerations, a concept that he equates to the one of status; Stark (1990) takes into account relative status deprivation in order to explain why workers are usually not paid their marginal product; Frank (1996) delivers compelling evidence that compensating wage differentials can be due to the necessity to abide with social responsibility on the job; Levine (1991) argues that group cohesiveness and lower wage dispersion increases efficiency in participatory firms, explaining this way involuntary unemployment among blue collars, who are paid above-market wages in order not to limit their compliance with the firm's objectives.

Some studies have analyzed the role of fairness in different types of organization. Most of

them deal with nonprofits. Leete (2000) takes wage dispersion as the relevant proxy for comparing the different degree of distributive fairness characterizing different organizational forms. She starts from the observation 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 in monetary remuneration would stunt motivations different from monetary ones, in the vein of the crowding-out effect hypothesized by Frey (1997). Labor market data from the 1990 US Census confirm the hypothesis, since the comparative analysis in non-profit organizations and for profit-firms confirm a negative and significant spread, 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 taken as representing a fairer work environment, while the role of non-monetary aspects, for example linked to organizational processes, is not spelled out and tested against the data, the assumed relevance of non-monetary motivations notwithstanding. Furthermore, she does not present any evidence on how this higher fairness in wages is perceived by workers. Finally, the impact of fairness on worker well-being is not analyzed.

The cited works show that the applied economic literature concerning fairness in organizational settings is mainly referred to outcomes, hence to distributive fairness. The idea of distributive fairness is nearer to the traditional economic approaches, which used to single out a causal link between effort and monetary incentives. Few works, much more recent, are found dealing with the fairness of procedures. They concern 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. 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. Benz and Stutzer (2003), working on the 1998 UK WERS (Workplace Employee Relations Survey), use the same concept in the realm of organizations. They find that worker satisfaction with pay is positively and significantly influenced by procedural factors such as the frequency of being asked on 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. Higher pay is associated with higher pay satisfaction, but it does not substitute the influence of procedural factors. Hence procedural utility is valued independently of pay and other instrumental elements of well-being. This result is referred to the universe of the British workforce. It is obtained for just one factor representing procedural utility. Besides, it does not distinguish among and compare different organizational forms.

3. Job satisfaction as a proxy of worker well-being in organizational settings

Traditional theories, such as the neoclassical theory of individual labor supply, the principal-agent model (Alchian and Demsetz, 1969), or the efficiency wage theory (Shapiro and Stiglitz, 1984), used to take into consideration the relation between workers’ effort and the wage, which was seen as the main 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, like 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 non-monetary aspects of the job and their relation with effort. Workers' behavior used to be seen as steered exclusively by self-seeking motivations linked to monetary aspect, while other components, for example relational, process-related, and other-regarding were left out of the picture (Ben-Ner and Putterman, 1999; Gui and Sugden, 2005). Furthermore, monetary aspects were considered exclusively starting from absolute measures (the level of the wage), and the perceptions of involved actors concerning monetary aspects were disregarded. The role of non-monetary motivations was introduced in economics initially by Pagano (1984), and then by Frey (1997), acquiring momentum over the last few years.

In some studies, worker satisfaction was taken to represent a proxy for individual well-being, in connection with distributive fairness, but no study was detected dealing with the relation between satisfaction and procedural 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. Other studies take into consideration the determinant of job satisfaction, without anyway making the role of fairness explicit. Benz (2005) tests the determinants of job satisfaction using two large datasets for the whole US and UK economies,⁵ 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 analyzing the determinants of job satisfaction. However, it lacks

⁵ The National Longitudinal Study Youth for the US and the British Household Panel Survey for the UK.

empirical evidence concerning worker motivations⁶ and fairness.

Starting from this observation, a new and wider relation is introduced and tested, whereby worker utility is hypothesized to be influenced not only by the salary and effort levels, but also by the fairness of distributive processes and procedures.

$$U = U(w, e, f)$$

where f is a vector of indexes representing distributive and procedural fairness. A formal model will not be developed and tested. However, the result of the empirical analysis will be used to develop new theoretical hypothesis, which can serve as heuristic devices for future research both at the theoretical and empirical level (Malerba, 2005).

The general upshot of the analysis is that when the fairness of procedures and organizational routines is taken into consideration workers cannot be any more described as steered uniquely by self-seeking motivations. If workers' assessment of the fairness of norms established within the organization is relevant for their well-being and, possibly, effort levels, then it is necessary to take into account also the weight of not-self-seeking motivations.

4. 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

⁶ The analysis of the linkages between worker motivations and job satisfaction in the Italian social service sector was carried out in Borzaga and Depedri (2005) and in Borzaga and Tortia (2006).

operational units) operating in 15 Italian provinces.⁷ Separate questionnaires were administered also to 2066 paid workers. Table 1 shows the organizational typologies 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.⁸ Nonprofit organizations represent the rest of the sector, amounting to about 70% of the total.

The questions enabled important and detailed information to be gathered on both the characteristics of the organization, the occupational and socio-demographic features of workers, and their well-being. Table 2 shows the workers' main characteristics: the strong predominance of female workers is immediately apparent and evidences a kind of protection granted to the weaker and less employable social groups,⁹ though nonprofits show a higher ratio of part-time work. The predominance of middle aged workers (36 to 50 years old) is observed, though workers in nonprofits are younger than in the public sector. The most widespread educational qualification is the high-school diploma. Nonprofits show a higher occurrence of unskilled and graduated workers with respect to the public sector. Workers with a specific training for working in the

⁷ 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.

⁸ The database encloses also 17 for profit firms with 188 workers.

⁹ This statement refers mainly to women employed in the social service sector. In the Italian labor market, the female activity rate is much lower than the male (75% for men vs 50% for women in 2003, but the former was 43% in 1995 and about 33% in 1975). Furthermore, a specific type of social cooperative is specifically designed to employ disadvantaged workers, defined as long-run unemployed and hard-to-employ workers.

social service sector are the rule in the public sector (about 75% of cases), and they represent the majority of cases in the whole of the sector. Full-time employment contracts are the rule as well (three fourth of the cases), with marginal variations by organizational forms.

Table 2 about here

As concerns wages (Table 3), empirical research has shown that pay is lower in nonprofits than in public organizations producing the same services (Levine, 1991; Leete, 2000). Our results confirm these data. Wages in the public sector are higher than in the non-profit, and show lower dispersion, at least as long 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 value¹⁰. Workers in the nonprofit sector seem to face a higher degree of risk concerning their monetary remuneration. 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 concerning 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 vacation. A higher number of absentee work-days represent lower effort. The average for the whole sample is 11 days. However, this time data show strong variation by organizational form:

¹⁰ Comparisons are 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 turns out that it is slightly lower than in nonprofit organizations. Hence our results do not confirm Leete's findings.

workers in the public sector take a number of annual absences that is almost double than workers in nonprofits.

Table 4 about here

In the present study, workers' well-being is indexed by self-reported degrees of satisfaction (Table 5). The original database records satisfaction with the job as a whole, plus a list of 14 items concerning satisfaction with various job characteristics. Following Zamagni (2005), workers' well-being is hypothesized to depend on two main components: a material component, including monetary and non-monetary incentives, and an immaterial component including all the aspects of the working environment contributing to workers' self-respect and auto-affirmation. To this end, the items of satisfaction were sorted into two groups. The first refers to material utility, defined as the degree of satisfaction generated by monetary and non-monetary outcomes linked to the worker's job and to the work environment. On the other hand, happiness includes those items of satisfaction representing workers' involvement in the activity of the firm, to professional growth and to relational aspects of the job. These items refer explicitly to immaterial aspects, which are able nonetheless to generate satisfaction, hence to increase well-being.¹¹ The classification was not worked out exclusively on an ex-ante basis. Categorical principal components analysis (CatPCA) was run on the items of satisfaction. The results of the analysis

¹¹ A similar classification refer to the so-called "two factors model" and distinguishes between intrinsic and extrinsic motivation. If applied to the present study, material satisfaction would have rewarded extrinsic motivations, while and happiness would have rewarded intrinsic motivations. Also the classification given by Ben-Ner and Putterman (1999) could be used. It 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. The distinction used by Zamagni was chosen because it more easily serves to interpret the data, leaving little room for discussion about the classification of the various items.

(in Appendix B) are coherent with the partition here introduced.¹² The items of material satisfaction appear in the first component and in the third, while the items of happiness are concentrated in the second component.¹³

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 turns out to be highest as long 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 shows 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 guarantees jobs much better than the private sector in general. On the other hand, big gaps are found for past and future career advancement and for the immaterial items, such as relations with superiors.

¹² The significance of the CatPCA was tested by means of reliability analysis. The Cronbach Alpha for the first three components is comprised between 0.7, and 0.8, showing a good degree of significance.

¹³ An exception is represented by the items of relational satisfaction, which were put in the group used to calculate happiness, even if in the CatPCA they appear in the first component. The reason for this shift is that they represent an immaterial component of satisfaction. Other elaboration on the empirical analysis in section 6 shows, for example, that the wage has a positive impact on material satisfaction when the items of relational satisfaction are excluded, while this 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 excluded from happiness. Hence the exclusion of the items of relational satisfaction from material satisfaction allows to isolate better the influence of some variables. For other significant analysis concerning satisfaction and incentive mixes in the Italian social service sector the reader can have a look to Borzaga and Tortia (2006).

As regards loyalty (Table 6), the most part of workers want to stay with their organizations as long as possible, and 74% would like to stay at least for 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) were found. Comparatively, workers show a higher degree of loyalty in nonprofits, while about 40% of workers in the public sector would rather prefer to quit for a better job opportunity.¹⁴

Table 6 about here

In the end, the descriptive analysis serves the need of giving a more comprehensive picture of general organizational features, and of the level of self-reported degrees of satisfaction. Broad organizational differences between the public and non-profit sectors emerge as extremely significant, justifying this way the extension of the work at the comparative level.

5. The measure of distributive fairness and procedural fairness

Fairness can be observed in relation to different aspects of the working activity. In this work, distributive and procedural fairness will be taken into consideration. Various authors have dealt with different 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

¹⁴ Direct observation reveals that many of the workers in the public sector are likely to be willing to quit the organization, but to stay in the public sector, since it offers higher pay and job security.

perceived by a single individual. 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 long as the circulation of information is concerned, disregarding outcomes (Tyler and Blader, 2000; Solari, 2003). It can be measured both subjectively and objectively.

Measures of fairness can be objective or subjective. The literature records some example of objective measures of 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: Worker do not pay attention only to their own pay level, as it would be granted by more traditional theoretical streams. Various versions of relative wages are the key variable when equity judgments are to be expressed. 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) represent a second group of measures of distributive fairness. Objective measures, though measurable with precision, present at least one important drawback. They do not involve directly the interested parties. In other words, they are not able to give a fruitful representation of the perception of fairness felt by the involved actors, hence of their judgment and possible consequences on their actions.

Subjective measures of fairness are just introduced to this end. They may present other potential drawbacks, such as casual or systematic overestimation or underestimation of the degree of fairness present in a certain organization. They can also be biased because of idiosyncrasies in individual perception not linked to the phenomenon under investigation. However, how it was shown by Oswald in his seminal contribution (1997), these may not be sufficient reasons not to use 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 final results as long as the measurement scale is ordinal. Idiosyncrasies can bias the results, but this problem is present also in the case of objective measures. The best remedy for this problem being the availability of longitudinal data in order to check for organization-specific effects (?), unluckily they are not available in this study. Eventually, subjective measures might not be confidently used only if individuals are assumed to respond irrationally, but no evidence is found to justify this position.

If subjective measures of fairness are accepted, then their relation with worker satisfaction can be analyzed and evaluated. In the present study, the concept of fairness is taken to be a complex one, made by many different dimensions, which go beyond the mere idea of wage dispersion, relative and comparison wages. Indeed, wage dispersion and relative wages can be fair or unfair depending on the objective features of workers (education, training, tenure, etc...). Furthermore, their relevance for fairness depends on the way in which they are perceived subjectively. In this regard, non objective is to be found.

The empirical analysis starts from two questions present in the original questionnaire (section IV and section V of the original questionnaire, reported full-length in Appendix A). Interviewees were not asked explicitly their perception about fairness. The first question aimed at exploring how workers judged organizational protocols, involvement processes, flow of information, and other procedures within the organization. It can be interpreted as procedural fairness (Table 8). The second question deals with distributive processes within the organizations, asking workers to evaluate how well their remuneration corresponds to their contribution in terms of effort, competencies and experience. It can be interpreted as distributive fairness (Table 7). Some items in the questions concerning procedural fairness might be interpreted as referring to outcomes (for example the balance of incentives to contribution, and professional growth and career), hence to

distributive fairness. However, these items can as well be understood as processes taking place within the organization, hence in terms of procedural justice. Besides, distributive fairness, in our definition, is exclusively referred to the monetary remuneration. A confirmation of this partition comes from a study by Solari (2003) on the same dataset. Principal components analysis is used to show that the items of the two questions sorts exactly into two meta-dimensions,¹⁵ which correspond to procedural and distributive fairness. Given this robust result, it is possible to think about two indexes for the two typologies of fairness, calculated as means values of the single items. These will be used in the econometric analysis as covariates.

Table 7 about here

Descriptive analysis of distributive fairness and procedural fairness shows that, in general, mean scores are relatively low when compared, for example, to the items of satisfaction (Table 5). At least one point difference on the 1 to 7 Likert scale. This evidence may suggest a difficulty in satisfying workers' expectations as long as fairness is concerned. Starting from distributive fairness, a strong variation among mean results is not recorded, though workers seem to be particularly dissatisfied with the equity of monetary remuneration relative to the stress and tension undergone on the job. It can be interpreted as a confirmation of the Akerlof and Yellen (1984) hypothesis concerning gift exchange, since wages are low and perceived as unfair when compared with stress. On the other hand, they 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 public sector workers. In general

¹⁵ The robustness of the analysis is tested by means of reliability statistics, which turned out to be highly significant. Cronbach Alpha is higher than 0.8 for both components, hence its significance meets the most demanding statistical criteria.

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, results are particularly dissatisfactory in the case the balance of incentives to contribution, the transparency of promotions and professional growth and career. The average score is still lower than in the case of distributive fairness. However, the worse result is 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 undergoes a significant negative gap (2.9 vs 3.5). Public sector scores are amazingly 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.

6. The influence of fairness on worker satisfaction

A first econometric analysis is carried out by means of linear and ordered logit estimates. The linear analysis concerns the factor influencing the average index of satisfaction, material satisfaction and happiness, while ordered logit estimates are run when the dependent variable is overall satisfaction with the job.¹⁶ The main objective is to enquire the influence of perceived

¹⁶ This index of satisfaction is calculated as the average of all the items of satisfaction presented in Table 5, while material utility and happiness are calculated as averages of the respective items. The dataset encloses also a separate

fairness, both procedural and distributive, on worker satisfaction, though also the influence of the wage, and of proxies representing effort and is explored. Finally, covariates include also other control variables, representing socio-demographic features of workers, and other personal and organizational characteristics.

A positive and significant linkage between satisfaction and fairness is taken to show that organizations able to promote fairer organizational protocols will be better able at motivating workers, this ways inducing higher involvement, willingness to collaborate and pursue its objectives even in the presence of low salaries. Hence it can testify increased efficiency.

A criticism that can be addressed to the use of these measures of fairness as covariates influencing stated satisfaction, is that they actually represent proxies for satisfaction. It would not come as a surprise if the link between fairness and satisfaction were indeed strong. Here it must 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 distributive processes. In other words, they did not ask how satisfied was the worker with those features of the work environment. In principle, a worker can perceive a high degree of fairness without being satisfied about the work environment or about distributive processes, for example because he/she aims at a higher salary. Perceived fairness will be linked positively with satisfaction only if a real positive link exist between the two categories.

The empirical analysis is implemented in a cross-section environment.¹⁷ As far as covariates are concerned, a sub-set of variables, which constitutes the outcome of a pre-selection driven by

item referred to satisfaction with the job as a whole. Since it is ordered from 1 to 7, this item was used to run ordered logit estimates, which are presented in the last three columns of the table.

¹⁷ Cross-sectional data are not suitable to enquire strong causal linkages. Hence the endeavour will not be attempted. The econometric analysis is intended to enquire statistical linkages and reciprocal influences.

our research questions, was identified. Then the analysis of the full correlation matrix was performed. This is a first step to deal with collinearity and mis-specification problems.

Correlation coefficients are no higher than 0.25 for all variables (hence collinearity is excluded), apart from the correlation between workers' age and tenure in the organization, which is 0.41, and the correlation between the two indexes of fairness, which present a zero level coefficient equal to 0.56.

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

$$y = \alpha + \beta_{1i}PERS_{1i} + \beta_{2i}ORG_{2i} + \beta_3WAGE + \beta_{4i}EFFORT_{4i} + \beta_{5i}FAIR_{54i} + \varepsilon \quad (1)$$

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:

$$\ln \Omega_m(y) = -\tau_m + \beta_{1i}PERS_{1i} + \beta_{2i}ORG_{2i} + \beta_3WAGE + \beta_{4i}EFFORT_{4i} + \beta_{5i}FAIR_{54i} + \varepsilon_m \quad (2)$$

where $\ln \Omega_m$ is the logit (i.e. the log of the odds) for the dependent variable y (worker satisfaction), 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-end contract, tenure, wage

ORG_{2i} = organizational characteristics = dimension (log of number of employees), log-age
of the organization, presence of volunteers

WAGE = measure of monetary remuneration = hourly wage

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

*FAIR*_{5i} = indexes of fairness = distributive fairness, procedural fairness

Starting from the average index of satisfaction with the job in Table 9 (initial three columns), women turn out to be more satisfied than men. Also being on open end contract increases satisfaction, like the age of the organization. Dimension, as expected, strongly reduces satisfaction. The little dimension spurs participation and involvement, at least in nonprofits, together with a greater sensation of a meaningful work experience. Effort in terms of extra hours worked reduces satisfaction, while the wage is not significant. Finally, both distributive and procedural fairness strongly and positively impact on satisfaction. Procedural fairness has the greatest coefficient, and turns out to underpin satisfaction crucially. The ordered logit estimates concerning overall satisfaction with the job (last three columns) confirm these results, especially as long as the impact of distributive and procedural fairness is concerned. The odds ratio show that when the indexes of procedural and distributive fairness increase by one unit, the odds of having a worker satisfaction increase by one unit are increased by a factor of 1.2 and 1.6 respectively. The negative impact on satisfaction of dimension and effort (this time in terms of absentee workdays) is confirmed. Specific training has a strong negative linkage with satisfaction, and this effect was not present in the linear regression concerning average satisfaction. All the other effects found for the average index of satisfaction (for gender, open-end contract and age of the organization) are not confirmed in the case of overall satisfaction.

[Table 9 about here](#)

When material satisfaction alone is considered, the positive effect of gender is confirmed. The

effect of university degrees becomes significantly negative. This result can be easily explained with the too high expectations about material conditions (first and foremost the wage) held by many graduated students. Being on open-end contract strongly increases material utility, probably because past and future career advancements, because of the higher wage, and job protection. The age of the organization increase material utility, probably because older organizations are able to pay higher wages and to protect jobs better. It is confirmed that dimension reduces material satisfaction, like the presence of volunteer. The wage has a positive influence and this result is in line with traditional theories of labor supply. However, its influence is not strong indeed. Effort significantly reduces material satisfaction. The interpretation of this result is straightforward since increased effort increases the expectations concerning wages and career advancements. The positive and significant influence of distributive and procedural fairness is confirmed. Procedural fairness turns out to be more important than distributive fairness since the coefficient is almost double. This is a seemingly counterintuitive result, which shows that procedures are crucial also in the distributive realm.

When happiness is considered, age and education increase immaterial utility. High-school and university graduates are significantly more satisfied than their unskilled colleagues. Hence education has a positive impact on happiness, but a negative impact on material satisfaction. Material incentives do not stand workers' expectations, while education serves to improve involvement and professional growth. On the other hand specific training reduce happiness, probably because they have too high expectation about the content of their job, especially concerning variety and creativity. These expectations may come out to be frustrated by routine work. Being on open-end contract strongly favors material satisfaction, but reduces happiness. This further interesting result may be due again to the lack of variety and creativity, and to the lack of intellectual stimuli liked to long lasting work relations. Dimension has again a strong negative impact on happiness. The negative impact of effort is confirmed by the significance of

the number of absences, while the indexes of fairness are again both strongly significant. In the case of happiness, the impact of procedural justice is about four times the impact of distributive justice. Procedural fairness emerges as by far the most relevant factor influencing workers' happiness.

7. The specificities of different organizational forms

Given the relevant differences between the features of different organizational forms (public vs non-profit) highlighted in the descriptive part of the analysis, this section is specifically devoted to the comparison between public and non-profit organizations in the Italian social service sector. The same estimates have been run as in the previous section for public and non-profit organizations separately. Results are given in tables 10 and 11.

In the public sector, the average satisfaction index is negatively influenced, at the individual level, by specific training and both measures of effort. On the other hand, the hourly wage increases satisfaction as in the case of the whole sample of organizations. This result depends on the material component of satisfaction. Among the organizational variables dimension and the presence of volunteers strongly reduces satisfaction, but only in its non-material (happiness) component. This latter result may be due to the different roles held by paid workers and volunteers, who are likely to be given more interesting and valued job tasks, reducing the quality of paid workers employment. The strong positive impact of distributive and procedural fairness is confirmed for the public sector, and the impact of procedural fairness is stronger than the impact of distributive fairness, like in the general case. Looking at the ordered logit estimates for overall satisfaction with the job, the impact of the indexes of fairness is confirmed, though distributive fairness is significant only at the 10% level. Also the odds ratios show the greater relevance of

procedural fairness, since the factor by which the odds are increased when procedural fairness increases by one unit is almost double than in the case of distributive fairness. At the individual level, university degree, specific training and open-end contract have large negative effects. Also the negative impact of effort is confirmed, but only in terms of absentee workdays. At the organizational level, only the negative impact of dimension is not confirmed, while the negative influence of the presence of volunteers is found again. The negative impact of the presence of volunteers is particularly strong, as it is demonstrated by the odds ratios: the presence of volunteers increases the odds of having a lower degree of satisfaction by a factor of 3.57 (i.e. $1/0.28$), extremely high indeed.

Table 10 about here

Material satisfaction in the case of the public sector is negatively influenced by education (high school diploma and university degree). This result confirms what was found for all the organizations: education impacts negatively on material satisfaction, while specific training has a negative impact on happiness. Pay and career prospects in the former case, lock-in and lack of creativity in the latter case may again supply a valid explanation. Being on open-end contract, tenure, and the wage boost material satisfaction as expected, since they all favor higher pay, better career prospects and job security. The positive impact of the wage is strong, and this is the only case where the wage appears to have a substantive role in satisfying workers. The same result is not found in nonprofits. Effort and the dimension of the organization reduce material satisfaction, while the positive impact of fairness, especially procedural, is confirmed.

Happiness is boosted by age, probably because tenured workers in the public sector are an especially protected category, and by fairness. While the impact of procedural fairness is extremely strong, distributive fairness is much less relevant, but still statistically significant. The negative impact of specific training was already singled out. Being on open-end contract has a

positive impact on material satisfaction and a negative impact on happiness. The reasons for this result are likely to be the same as for all the organizations. The negative effect of dimension and of the presence of volunteers is also confirmed. Dissatisfaction with the presence of volunteers reduces first of all non-material components of satisfaction, since material aspects are not changed. Hence volunteers seem to hit first of all the self-respect and the degree of involvement of workers.

When it comes to the analysis of non-profit organizations, results are quite similar to the general case enclosing all the organizations. This is due to the much higher number of organizations and workers in the non-profit sector with respect to the public sector. Hence attention will be focalized only on the most notable differences.

The index of overall satisfaction with the job is positively influenced by gender: women are generally more satisfied than men. The high school diploma positively influences satisfaction, and this is an effect characterizing nonprofit only. An adequate qualification favors satisfaction for the bulk of the workforce (54% of the total). While specific training reduces satisfaction, being on open-end contract boosts it. As for organizational variables, satisfaction is favored by the age of the organization. Dimension reduces satisfaction for all of its specifications. It is to be noted that effort does not influence satisfaction significantly in non-profit organizations, and this is true also in the case of happiness, while only material satisfaction is reduced by increased effort. Also the effect of the wage is nil for all specifications of satisfaction, hence also for material satisfaction. Finally, the results for fairness duplicate exactly the ones found for the whole sample also as long as happiness and material utility are concerned. Ordered logit estimates concerning the overall satisfaction with the job do not add any relevant information, though some coefficients, for example gender and age of the organization, become not significant.

Table 11 about here

As for material satisfaction, women are more satisfied than man. Having an university degree reduces satisfaction, while being on open-end contract strongly increases it. Workers in older organizations are characterized by much higher material satisfaction, probably because the organization stands on firmer economic grounds, at the benefit of worker remuneration and job security. Happiness is positively influenced age and education, and negatively influenced by specific training, like in the general case.

7. The influence of fairness on workers' loyalty to the organization

A further measure of worker well-being, though an indirect one, is represented by the stated strength of the relation between the worker and the organization in terms of willingness to stay or leave, given all hypothetical alternatives. Hence the measure, presented in Table 6, is intended to represent the absolute subjective link between the worker and the organization.

The direct measures of satisfaction so far presented have proved to have a strong linkage with the measures of perceived fairness. The use of an indirect measure of satisfaction as success variable can represent a further check, escaping also the criticism of equivalence between stated satisfaction and perceived fairness that was already discussed in section 5.

The mutually excluding alternatives concerning loyalty (reported in Appendix A) were ordered and used as dependent variable to run an ordered logit model whose covariates are equal to model 2 in Section 6. Results are presented in Table 12 for all organizations and for the public and the non-profit sector separately. Starting from the whole sample of organization, for socio-demographic and other individual variables, age is positively linked with loyalty, and this result,

valid also for public and non-profit organizations, is easily understandable: as workers grow older their willingness to stay increase because if they had found a better job, they would have already quitted in the past. It is also possible that workers become accustomed to think about staying with the organization as time passes. The degree of education shows a negative link with loyalty, and this is true also for public and non-profit organizations taken separately, though high-school diploma does not show a significant impact in the public sector. Educated workers usually have more job opportunities, and tend to shift occupation more often than unskilled ones. The human capital of unskilled workers is likely to be more sunk to their organization since it is accumulated for its greatest part within it. Hence the lack of available alternatives growing overtime.

Conversely, the human capital of educated workers retains more general features and it can be redeployed more easily. As for organizational features, dimension is negatively linked to loyalty. This may be due to dissatisfaction given the strong negative link between satisfaction and dimension that was already shown in Sections 5 and 6. The same effect is found in public organizations, but not in non-profit ones. Hence nonprofits seem to be better able than public organizations at counteracting the negative effects of dimensional growth on worker motivations on-the-job. The number of absentee workdays shows a negative link with loyalty for the whole sample of organizations and also for nonprofits taken separately, but not in the public sector. This result seems to have a different meaning (proved by the different sign of the coefficient) than in the case of the measures of satisfaction. The positive link between satisfaction and absentee workdays show that absences represent a general relief for workers, hence they increase satisfaction. In the case of loyalty they clearly show disaffection and have a negative meaning. When there is disaffection, the reduction of effort increases satisfaction. Finally, distributive and procedural fairness are strongly significant in influencing fairness. Their effect is similar in the case of the whole sample. This is shown also by the odds ration, which are generally lower than in the case of the measure of satisfaction. Hence fairness impact relatively less on loyalty than on

satisfaction, though the is extremely significant anyway. However, this general result hides remarkable differences between public and non-profit organizations: distributive fairness is more relevant for public organizations, while procedural fairness is more relevant for nonprofits. Hence it seems that workers in the public sector take into consideration first of all the fairness of monetary incentives when assessing the strength of their link with the organization. Procedures seem to be relatively less important, though still significant. This effect may be due to workers' lack of control over the procedures in public bureaucracies. When procedures are too rigid and bureaucratic governance dominates, the relevance of procedures is downplayed, and unsatisfied workers prefer the "quit" option. Indeed, workers in the public sector show a higher propensity to quit the organization than workers in non-profits (Table 6). On the other hand, workers in nonprofit organizations take into consideration both distributive and procedural factors, but the latter are more relevant than the former. Relatively involvement in and influence on procedures may explain this different attitude. A second possible explanation of the same result is that, indeed, motivations steering workers in nonprofits are different from the motivations of public sector workers: monetary oriented the latter, more of an intrinsic kind, hence stressing the relevance of procedures, the former. In this respect, different degrees of fairness, both procedural and distributive, characterizing different organizational forms can play an important role in attracting differently motivated workers. A self-selection process can be hypothesized.

Table 12 about here

The public sector shows some specificities with respect to the whole sample. Open hand contracts have a negative impact on loyalty, and this is a highly counterintuitive result, since job protection should boost loyalty. Only perverse features of the work environment, such as bureaucratization and lack of motivations on-the-job, coupled with dissatisfaction about many dimensions of work relation are likely to explain the result, which is absent in nonprofit

organizations. Workers in the public sector are less loyal where voluntary work is employed. Even this result may be explained on the basis of dissatisfaction with the presence of volunteers pointed out in Section 6. Effort in terms of extra hours worked reduces loyalty and this is an effect specific to the public sector, whose workers seem to be more vulnerable to stress and extra work, since they are more accustomed to fixed work hours. Among the effects specific to the non-profit sector, specific training has a negative impact on loyalty, probably because of dissatisfaction with work task and routinization in many nonprofits, hence lack of involvement and creativity, which is particularly stressful for trained workers. Secondly, tenure is positively linked to loyalty, an intuitive result, which, nonetheless, is absent in the public sector.

8. Discussion

The empirical analysis leads to interesting consequences also from a theoretical point of view. The first result concerns the pervasive influence of fairness on worker well-being. Not only fairness is significant for all specifications of worker satisfaction and for loyalty to the organization, 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 worker satisfaction. The fairness of organizational processes is felt as a more complete and comprehensive criteria 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 taken into consideration insofar as they are embedded, as outcomes, in organizational processes.¹⁸ This more comprehensive criteria turns

¹⁸ Relevant theoretical arguments (Rabin, 1993), and experimental results (Falk et al., 2003) seem to support this line of enquiry. They show that not only outcomes matter, but also the intentions of the involved actors. The relevance of

out to impact more heavily on worker well being than the mere assessment of the fairness of monetary outcomes.

Second, different specifications of worker well-being are influenced by different factors. While material satisfaction is influenced mainly by objective features of the work environment and of the job (contract typology, tenure, wage, age of the organization, dimension, effort), happiness, hence the non-material components of satisfaction, is influenced by subjective features such as age, education, training, though also some objective elements (dimension and type of contract) do affect this latter component. It seems possible to state that worker utility is indeed influenced by two sets of factors: a material and an immaterial one, which respond to different worker attitudes and needs.

Third, the role of the wage and of effort in influencing worker well-being is much downplayed, when compared to the crucial role accorded by traditional theories. The wage shows some influence on well-being, but only in its material component, while it does not influence satisfaction with the job as a whole, hence well-being understood in a comprehensive way. Effort, proxied by the number of excess work-hours, shows to be important in lessening material satisfaction, and has also a relevant role in influencing negatively overall worker satisfaction. However, its overall relevance appears to be by far less important than fairness.¹⁹

intentions in social settings emerges through social processes since only the assessment of processes allow to point out the relevance of not-chosen alternatives, like in the Falk et al. (2003) paper. Hence processes and the procedures worked out to regulate them acquire momentum in the explanation of social interaction, the more so in organizational settings.

¹⁹ Regressions were run also using effort, in terms of extra hours worked, as the dependent variable in order to assess the influence of the wage and of fairness. The wage is never relevant in influencing effort, while a positive linkage between the two variables would have been expected on the basis of traditional theories. Procedural fairness has a positive and significant impact on effort. The effect is generally significant, but not particularly robust, since it is not

Fourth, institutional variation matters, since results concerning the non-profit and the public sector show systematic differences, which, however, do not concern the influence of fairness on worker well-being, which is strong for all specifications of worker well-being in both institutional forms. The main differences between the public and the non-profit sector are to be found, first of all, in the greater weight that education has in influencing positively happiness in nonprofit, while it reduces material satisfaction in the public sector. The two results are complementary and go in the same direction. However, it is clear that education impacts negatively in the public sector and positively role in nonprofits. Being on open hand contract has a negative impact in the public sector that is not displayed in nonprofits. The negative impact of effort on satisfaction is stronger in the public than in the nonprofit sector, where it appears to reduce only material satisfaction. At the organizational level the presence of volunteers has a negative impact on fairness in the public sector, but not in nonprofits. Finally, the wage is relevant in influencing material satisfaction only in the public sector. Overall, it is possible to state that various critical elements emerge in the analysis of the public sector, which are absent or less important in the nonprofits sector, which seems to be better able to cope, for example, with dimensional growth.

The general empirical results, disregarding institutional differences and sticking to the role of wage, effort and fairness alone (hence disregarding important control variables such as dimension), can help to reinterpret the theoretical scheme sketched in section 3. 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 that can be exemplified

found for all specifications of the model. On the other hand, distributive fairness is never significant in influencing

this way:

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

This first specification of worker satisfaction is quite near to the traditional one since the positive linkage with the wage and the negative impact of effort are found as expected. However, the crucial component representing fairness was lacking and needs to be added. On the other hand, the component representing happiness departs quite starkly from the traditional utility function:

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

Monetary remuneration is not significant any more, while effort retains some weak negative effect on satisfaction. The emerging picture from the analysis is one in which monetary remuneration influences (weakly) material satisfaction, but it does not influence workers' welfare as a whole. The impact of the level of monetary remuneration seems to be too weak to have a significant impact on workers' well-being. Analytically, these results can be represented in this way:

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

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. 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 do

effort.

not accept to work. Over and above the threshold, the level monetary remuneration loses its ability to influence well-being (Borzaga and Depedri, 2005), and other factors, such as fairness, acquire paramount importance in defining the level of worker well-being. The second hypothesis 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 of monetary remuneration is needed, while fairness is more effective. Given financial constraints faced by organizations, policies devoted to increase the degree of fairness of procedures and distribution are likely to be more effective in increasing worker well-being than wage increases. This second hypothesis is supported by the data concerning wages in the Italian social service sector: organizations in the public sector pay the highest wages, but workers in the public sector are the least satisfied. In this respect, it is quite possible that the public sector discounts the lower level of perceived fairness. Wage increases necessary to close the gap in worker satisfaction are likely to be not compatible with financial equilibrium.²⁰

Figure 1 about here

Figure 1 represents²¹ both hypotheses since the threshold level representing the opportunity

²⁰ 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 unfairness, the two results become similar.

²¹ The utility function represented in figure 1 can be expressed analytically by means of the Stone-Geary utility function, which takes into consideration the existence of threshold level for the independent variables. In the case at hand, worker utility can be represented as $U = U(f, w - w^*)$. Using the standard form of the Cobb-Douglas utility function the following form is obtained: $U = f^\alpha (w - w^*)^\beta$.

cost for the supply of labor is displayed.

7. Concluding remarks

Theoretical work concerning the role of fair economic behavior has grown considerably in the last decades. Crucial advances have been reached at theoretical level and in laboratory experiments. However, empirical tests of the theories of fairness have not been so exhaustive to date. Important tests have been produced concerning relative status deprivation and group cohesiveness in for profit-enterprises. Among the most important empirical results, the one by Leete (2000) is restricted to the analysis of wage dispersion. No explicit test has 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 enquired to date. The concept of fairness used in this study concerns also non-monetary aspects of the job, such as the procedural ones, introducing and assessing the relevance of the non-instrumental component in human behavior. This components turns out to be extremely significant in influencing worker well-being, while its weight has been at the very least underestimated by past theoretical research.

The data, which refers 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 by workers in the organization. Satisfaction with the work, specified in a material and in an immaterial component is used as success variable depending on workers' socio-demographic features, on organizational characteristics, and on perceived fairness. The results evidence a crucial role for fairness concerns in influencing workers' well-being. Fairness, mainly in its procedural component, emerges as the

most important determinant of workers' satisfaction, while the variables usually taken into consideration by traditional economic model result either of limited relevance (effort), or hardly significant at all (the wage). The use of subjective evaluations both in the field of satisfaction and fairness norms is justified by the lack of objective data in the same realms, and by the increasing consent supporting the robustness of results reached with the use of subjective self-reports.

Differences between organizational forms appear to be relevant, justifying the idea that different forms are characterized by different organizational protocols. If worker satisfaction is accepted as a relevant policy variable, attention should be paid to the way in which different organizational forms satisfy their workforce, and fairness emerges as a crucial feature in this respect. The mean value of fairness perception is low public organizations, but it is not high in non-profit organizations too. Organizations better able to satisfy workers' desire for fairness will be able to significantly affect their well-being and, possibly, compliance with organizational objectives, over and above the effect of monetary incentives. In this respect, fairer organizational protocols represent also an element of competitive advantage. Comparatively, nonprofits appear to be better suited than public sector organizations, at least in the social service sector. Future research will require wider comparisons including also for-profit enterprises.

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Appendix A. Questions

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)^a

Rotated Component Matrix	Component		
	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.

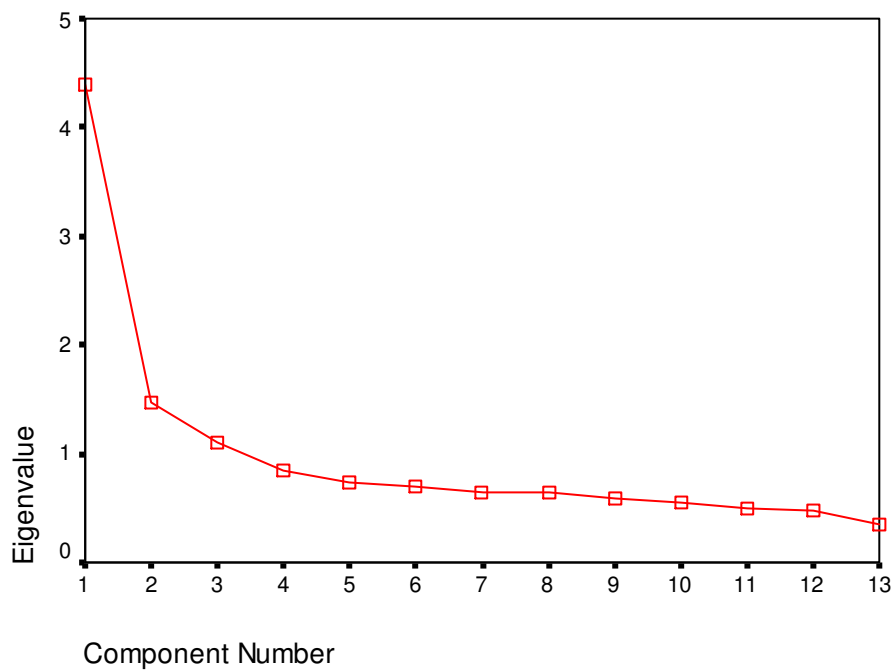
a Rotation converged in 5 iterations.

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.

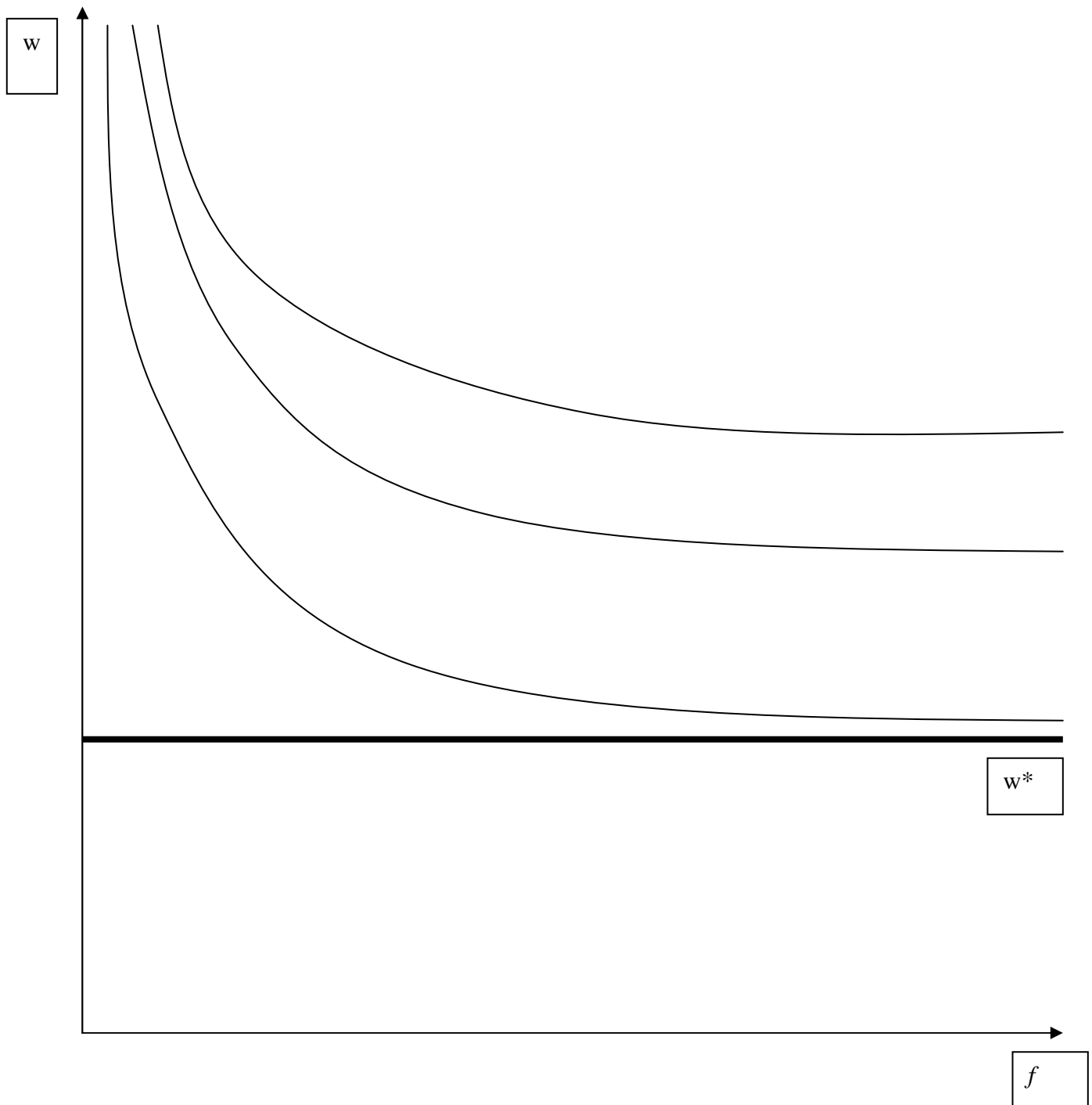


Figure 1. Over and above the participation level w^* large increase in monetary remuneration are needed in order to increase worker well-being.

Table 1. Organizational typologies and their workers

	<u>Organizations</u>		<u>Workers</u>	
	No.	Percent	No.	Percent
Public ownership	54	25.6	585	28.3
Non-profit	157	74.4	1193	57.7
Other*			288	13,9
<u>Total</u>	211	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 exceeding work-hours and absentees 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*)^a

<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

<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

^(a)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) ^a

	<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

(^a)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)^a

	<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

(^a)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 ^c	0.108	2.61	0.009	0.138	2.71	0.007	0.062	1.31	0.192	1.171	1.62	0.105
Age (years) ^a	0.003	1.43	0.152	-0.002	-0.59	0.559	0.006	2.59	0.010	1.008	1.62	0.105
High-school diploma ^c	0.057	1.39	0.165	-0.083	-1.64	0.102	0.184	3.86	0.000	1.076	0.71	0.476
University degree or higher ^c	0.071	1.31	0.190	-0.138	-2.05	0.041	0.240	3.83	0.000	0.813	-1.58	0.115
Specific training ^c	-0.044	-1.20	0.231	0.015	0.33	0.745	-0.089	-2.10	0.036	0.690	-3.79	0.000
Open-end contract ^c	0.073	1.88	0.060	0.333	6.89	0.000	-0.114	-2.54	0.011	0.915	-0.95	0.344
Tenure in the organization (years) ^a	0.003	1.18	0.237	0.007	2.12	0.034	0.001	0.21	0.831	0.999	-0.13	0.900
Log-Age organization (years)	0.056	2.39	0.017	0.116	3.96	0.000	0.001	0.03	0.973	1.052	0.91	0.365
Log-Dimension of the organization (number of employees)	-0.073	-4.71	0.000	-0.069	-3.60	0.000	-0.074	-4.12	0.000	0.924	-2.15	0.032
Presence of volunteers	-0.028	-0.78	0.437	-0.089	-2.00	0.045	0.011	0.27	0.786	0.963	-0.41	0.679
Effort (extra hours worked)	-0.008	-2.09	0.037	-0.021	-4.62	0.000	0.003	0.65	0.513	0.996	-0.40	0.688
Number of absences over the year	0.001	1.61	0.107	0.000	0.78	0.434	0.001	2.01	0.045	1.003	2.31	0.021
Hourly wage ^a	0.005	0.62	0.534	0.018	1.79	0.074	-0.007	-0.71	0.475	0.989	-0.59	0.553
Distributive fairness ^b	0.160	12.24	0.000	0.211	13.05	0.000	0.113	7.49	0.000	1.277	7.52	0.000
Procedural fairness ^d	0.413	30.15	0.000	0.406	23.97	0.000	0.409	25.90	0.000	1.672	14.62	0.000
Constant	2.061	11.87	0.000	0.872	4.06	0.000	3.088	15.43	0.000			

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 ^c	0.062	0.66	0.512	0.078	0.71	0.478	0.039	0.35	0.730	1.348	1.44	0.151
Age (years) ^a	0.007	1.52	0.129	0.000	-0.03	0.977	0.014	2.40	0.016	1.014	1.30	0.193
High-school diploma ^c	-0.074	-0.84	0.401	-0.203	-1.99	0.047	0.027	0.26	0.798	0.845	-0.81	0.418
University degree or higher ^c	-0.178	-1.42	0.156	-0.393	-2.70	0.007	-0.044	-0.29	0.771	0.443	-2.85	0.004
Specific training ^c	-0.243	-2.66	0.008	-0.112	-1.06	0.292	-0.321	-2.91	0.004	0.495	-3.41	0.001
Open-end contract ^c	-0.114	-1.45	0.148	0.198	2.16	0.031	-0.316	-3.31	0.001	0.545	-3.24	0.001
Tenure in the organization (years) ^a	0.007	1.28	0.200	0.015	2.56	0.011	-0.002	-0.34	0.737	1.004	0.38	0.704
Log-Age organization (years)	0.055	1.08	0.280	0.096	1.62	0.105	0.008	0.13	0.896	0.978	-0.20	0.842
Log-Dimension of the organization (number of employees)	-0.151	-4.12	0.000	-0.149	-3.51	0.000	-0.153	-3.47	0.001	0.963	-0.44	0.656
Presence of volunteers	-0.442	-2.62	0.009	-0.307	-1.57	0.118	-0.568	-2.78	0.006	0.280	-3.16	0.002
Effort (extra hours worked)	-0.015	-1.68	0.093	-0.038	-3.73	0.000	0.003	0.29	0.775	0.978	-1.11	0.269
Number of absences over the year	0.001	1.72	0.086	0.001	1.52	0.129	0.001	1.45	0.148	1.004	2.30	0.021
Hourly wage ^a	0.038	1.74	0.082	0.071	2.81	0.005	0.016	0.62	0.536	1.039	0.72	0.472
Distributive fairness ^b	0.152	6.23	0.000	0.219	7.74	0.000	0.087	2.96	0.003	1.115	1.90	0.057
Procedural fairness ^d	0.427	15.68	0.000	0.355	11.21	0.000	0.457	13.88	0.000	2.018	9.97	0.000
Constant	3.184	7.39	0.000	1.710	3.41	0.001	4.423	8.48	0.000			

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 ^c	0.111	2.29	0.022	0.144	2.30	0.022	0.066	1.21	0.226	1.041	0.34	0.737
Age (years) ^a	0.002	0.71	0.478	-0.004	-1.36	0.175	0.006	2.13	0.033	1.010	1.47	0.141
High-school diploma ^c	0.102	1.91	0.056	-0.079	-1.14	0.256	0.267	4.44	0.000	1.330	2.05	0.041
University degree or higher ^c	0.081	1.22	0.224	-0.165	-1.91	0.056	0.278	3.72	0.000	1.085	0.49	0.626
Specific training ^c	-0.142	-2.76	0.006	-0.079	-1.19	0.234	-0.195	-3.38	0.001	0.579	-4.28	0.000
Open-end contract ^c	0.088	1.76	0.079	0.291	4.46	0.000	-0.065	-1.15	0.251	1.082	0.63	0.528
Tenure in the organization (years) ^a	0.002	0.61	0.540	0.005	1.12	0.261	0.002	0.38	0.703	1.001	0.14	0.887
Log-Age organization (years)	0.075	2.36	0.018	0.199	4.87	0.000	-0.029	-0.83	0.409	1.092	1.10	0.270
Log-Dimension of the organization (number of employees)	-0.057	-3.17	0.002	-0.068	-2.88	0.004	-0.047	-2.29	0.022	0.898	-2.38	0.017
Presence of volunteers	-0.062	-1.10	0.274	-0.097	-1.31	0.190	-0.069	-1.08	0.282	1.093	0.61	0.539
Effort (extra hours worked)	-0.006	-1.35	0.176	-0.015	-2.82	0.005	0.002	0.35	0.728	0.998	-0.24	0.810
Number of absences over the year	0.000	0.33	0.745	-0.001	-0.90	0.371	0.001	1.54	0.124	1.001	0.68	0.495
Hourly wage ^a	0.001	0.05	0.958	0.009	0.63	0.529	-0.012	-0.91	0.363	0.978	-0.82	0.415
Distributive fairness ^b	0.168	9.82	0.000	0.217	9.81	0.000	0.124	6.45	0.000	1.342	6.60	0.000
Procedural fairness ^d	0.388	21.56	0.000	0.402	17.25	0.000	0.376	18.60	0.000	1.652	10.46	0.000
Constant	2.221	9.05	0.000	0.955	3.01	0.003	3.351	12.16	0.000			

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

Variables	All organizations			Public sector			Non-profit organizations		
	Odds ratios	<u>Z</u>	<u>P> Z </u>	Odds ratios	<u>Z</u>	<u>P> Z </u>	Odds ratios	<u>Z</u>	<u>P> Z </u>
Gender ^c	1.108	0.93	0.350	1.129	0.55	0.584	1.083	0.59	0.554
Age (years) ^a	1.032	5.55	0.000	1.030	2.57	0.010	1.035	4.65	0.000
High-school diploma ^c	0.656	-3.83	0.000	0.763	-1.24	0.214	0.652	-2.81	0.005
University degree or higher ^c	0.613	-3.43	0.001	0.439	-2.80	0.005	0.718	-1.77	0.076
Specific training ^c	1.064	0.59	0.554	1.182	0.77	0.439	0.780	-1.80	0.072
Open-end contract ^c	1.009	0.09	0.930	0.709	-1.79	0.074	1.196	1.32	0.188
Tenure in the organization (years) ^a	1.003	0.44	0.657	1.001	0.08	0.938	1.019	1.72	0.085
Log-Age organization (years)	1.085	1.35	0.177	1.185	1.43	0.154	0.990	-0.11	0.910
Log-Dimension of the organization (number of employees)	0.927	-1.96	0.050	0.860	-1.78	0.075	0.942	-1.24	0.214
Presence of volunteers	1.111	1.10	0.270	0.241	-3.60	0.000	1.230	1.31	0.190
Effort (extra hours worked)	0.995	-0.55	0.584	0.949	-2.39	0.017	0.996	0.65	0.517
Number of absences over the year	0.997	-2.65	0.008	0.998	-1.12	0.264	1.260	-2.21	0.027
Hourly wage ^a	0.987	-0.65	0.515	0.962	-0.83	0.409	0.969	-1.08	0.279
Distributive fairness ^b	1.284	7.31	0.000	1.310	4.56	0.000	1.499	4.82	0.000
Procedural fairness ^d	1.315	7.59	0.000	1.145	2.05	0.041	1.083	7.88	0.000