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Social preferences or personal career concerns? Field evidence on positive and negative reciprocity in the workplace

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ABSTRACT

This paper provides non-experimental field evidence on positive and negative worker reciprocity. We analyze the performance reactions of professional workers to fair and unfair wage allocations in their natural environment. The objects of interest are professional soccer players in the German Bundesliga. This environment enables us to circumvent the main problems of observational studies on reciprocity because there is substantial transparency in individual player values and performance. Our main finding is that workers exhibit both positive and negative reciprocity toward employers who deviate from a player's perception of a fair market wage. This perception of a fair wage follows from a Mincer-type wage equation that incorporates a worker's past performance. The different results between changing and non-changing players are in line with theories of fairness perception but cannot be explained by private information from the employers or the personal career concerns of the players. Altogether, our findings provide strong evidence for the external validity of previous laboratory results on gift exchange in the labor market.

1. Introduction

Consider the following scenario. Tom just finished his B.A. in Management and applies for a job in the retailing industry. From a business magazine, he knows the average salary of new job entrants in this industry. After a series of job interviews, Tom receives only one job offer, which offers a salary that is considerably lower than the average salary level. Because he does not want to be unemployed, Tom accepts the offer and begins working in the industry. Now imagine a situation in which the same average wage level for new entrants applies but in which Tom's wage offer substantially exceeds the average salary. Again, he accepts the offer and starts working in the industry. Will it matter for Tom's subsequent working performance which of the two scenarios actually occurs? And to what extent will his behavior reflect fairness considerations? This paper aims to answer these questions and reports evidence from a non-experimental field study that explores whether paying above-market wages induces workers to improve their performance. In addition, we test whether paying below-market wages induces workers to reduce their performance.

The literature on gift exchange in the labor market (Akerlof, 1982; Akerlof & Yellen, 1988, 1990) assumes that Tom uses the average salaries of similar others (i.e., newcomers to the industry) to form his reference wage, against which he compares his actual salary. If Tom perceives himself to be underpaid, he will reduce his performance, and if he perceives himself to be

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overpaid, he will increase his performance. Overall, this literature proposes that workers and employers engage in reciprocal gift giving, where the size of the gift from the worker is his performance in excess of the minimum work standard while the size of the gift from the firm is represented by wages in excess of what the worker could earn at another firm. This gift-exchange view of labor relations is supported by findings from numerous laboratory experiments (Pereira, Silva, & e Silva, 2006; see Fehr & Gächter, 1998; Fehr & Gächter, 2000 for overviews).

The inclination of individuals to reward those who have been kind to them and to punish others who have been unkind to them has been labeled positive and negative reciprocity, respectively (see the discussion in Rabin, 1993). Studies in support of positive and negative reciprocity among individuals are now so numerous that several formal theories of reciprocal behavior have been developed (Cox, Friedman, & Gjerstad, 2007; Dufwenberg & Kirchsteiger, 2004; Falk & Fischbacher, 2006).

However, the observation that these theories are mainly built on laboratory evidence has recently become a concern for several researchers (e.g., Levitt & List, 2007), and the extent to which this evidence translates into the field remains the subject of ongoing discussion. Whereas several field experiments on worker reciprocity have now been performed (Bellemare & Shearer, 2009; Cohn, Fehr, & Goette, 2009; Gneezy & List, 2006; Hennig-Schmidt, Rockenbach, & Sadrieh, 2010; Kube et al., forthcoming(a)), their findings are less clear, and the effects detected are usually smaller than those detected in laboratory studies. This conflict between laboratory and field studies is sometimes considered evidence that laboratory findings do not translate into the field (Levitt & List, 2007).

It may be too soon to draw such conclusions, as the number of existing field studies remains limited. This lack of studies is particularly severe in the area of observational field studies on worker reciprocity. These studies have encountered considerable problems, such as a lack of good proxies for worker effort, a mix of incentives for workers, productivity differences among workers, and the influence of workers' strategic considerations when choosing effort levels (Falk & Heckman, 2009). Moreover, alternative wages for employees are often not observable for researchers (Bellemare & Shearer, 2009). While these problems are specific to observational studies, experimental and observational field studies share a common shortcoming: studies that jointly analyze positive *and* negative reciprocity are scarce,[1] which makes it difficult to compare previous reciprocity findings across different studies.

In this paper, we aim to close this gap in the literature and present observational field evidence on both positive and negative worker reciprocity. We aim to circumvent the aforementioned measurement problems by using seasonal data from professional soccer players in their natural environment (the German Bundesliga) over a five-year period. The choice of this industry has considerable advantages for the purpose of our study. First, for each worker, objective performance values and employer information can be obtained for every year under study (Kahn, 2000). In particular, we use an expert evaluation of player performance to reveal productivity differences across players within the same tactical position. This effort proxy is much more reliable than those used in previous field studies (e.g., Lee & Rupp, 2007). Information on the team that a player stayed with during a particular season allows us to address concerns about personal reputation as a motivational factor in player performance.

Second, although player salaries are not publicly available, there is considerable transparency in the player market (Torgler, Schaffner, Frey, & Schmidt, 2008) because the highly renowned German *Kicker Sportmagazin* provides market value estimates for the players in the German Bundesliga. Previous studies have most frequently used these wage data, because the data's reliability has been judged to be high (Franck & Nüesch, 2011, 2012; Frick, 2007; Haas, Kocher, & Sutter, 2004; Kern & Süssmuth, 2005; Torgler & Schmidt, 2007). These data allow us to compare a player's actual wage with his fair market wage. Such entitlements have previously been documented to trigger fairness perceptions (see Fehr, Goette, & Zehnder 2009 and the references therein). Third, professional sports players do not face a complex mix of incentives. Performance has to be provided on the field and is constantly observed by managers and fans.[2]

In line with the gift-exchange view, we use the average wage of similar others to form a player's reference wage. In a first step, we obtain this reference wage as the prediction from a Mincer-type wage equation that includes a player's observable characteristics (e.g., age, experience, tenure) and his performance in the previous season. In a second step, the player is assumed to form the fairness evaluation of his current wage by comparing it to the reference wage and, subsequently, to choose his performance level.

Our empirical results support earlier experimental findings in the field in that we find a small but statistically significant effect for wages that deviate from market levels: depending on whether wages are lowered or increased relative to the reference wage, output elasticities amount to -0.25 and 0.10, respectively. Whereas performance reductions in response to underpayment are in line with negative reciprocity, they are never optimal for purely self-interested players (because future wages are increasing in performance). In contrast, performance increases in response to overpayment may well reflect the career concerns of personally self-interested players. To test whether the positive effect should instead be attributed to fairness concerns, we compare performance responses across changing and non-changing workers. Whereas both groups face comparable career incentives, findings by Gneezy and List (2006) reveal that positive reciprocity decreases with the duration of an ongoing working relationship. We thus predict that positive reciprocity is higher for players who have recently changed to a new team than for players who have remained with their former team. Our empirical results support this prediction.

[1] The field experiment by Kube, Marechal, and Puppe (forthcoming a) forms the notable exception.

[2] We want to emphasize that during our sample period there were no obvious cases of player transfers in the German Bundesliga in which players were primarily bought to increase merchandising sales. Therefore, we view on-field performance to be the most important performance aspect for teams in our sample.