

**SELF-SERVING BIASES: EVIDENCE FROM A SIMULATED LABOR  
RELATIONSHIP**

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**Abstract:** Previous studies have found evidence of a self-serving bias in bargaining and dispute resolution. We use experimental data to test for this effect in a simulated labor relationship. We find a consistent discrepancy between employer beliefs and employee actions that can only be attributed to self-serving biases. This discrepancy is evident through stated beliefs, revealed satisfaction, and actual actions. We present evidence and discuss implications.

Though employment conditions have been increasing over time, recent trends in the labor market point to increased employee dissatisfaction and hostility, manifested through the rising number of employment lawsuits, employee turnover, employee complaints, and even workplace violence. In a 1998 survey (Flynn, 1998), 84% of surveyed HR professionals reported increased employee hostility in their organizations; 67% of them blamed this increased hostility on employees' having excessively high expectations. A seminal work in investigating satisfaction is Hamermesh (1977). Recently, Hamermesh (1998) showed, using labor data, that satisfaction is very much dependent on expectations and that satisfaction is greatly affected when reality does not meet expectations.

The employment relationship is generally considered to be an incomplete contract.<sup>1</sup> Both parties to this contract have unspecified obligations and considerable discretion in their actions. Blau (1964) contends that this effectively makes the relationship one of social exchange. Studies such as Akerlof (1982), Kahneman, Knetsch, and Thaler (1986), Akerlof and Yellen (1990) and Charness (1996) demonstrate that perception of fair (or unfair) treatment is an important influence on choices made in this environment. Given the subjective nature of this issue, management must consider the employee point of view when making evaluations and policy.

One's view of fair treatment depends on one's own internal reference point. This reference point is likely to be colored by what is known as *the self-serving bias*. This is the tendency for self-interested parties to evaluate reality in self-serving ways.<sup>2</sup> Of greater importance to the setting of this article is that judgement about fairness is skewed in the

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<sup>1</sup> For example, see Milgrom and Roberts (1992), pg. 329

<sup>2</sup> Svensson (1981) finds that 93% of American drivers believe that they are above-average drivers.

direction of self-interest (Messick and Sentis, 1979).<sup>3</sup> If agents indeed value fairness in the outcome, then self-serving biases could play a decisive role in the determination of outcomes. Babcock et al. (1995) and Babcock and Lowenstein (1997) demonstrate the importance of the self-serving bias in dispute resolution and union bargaining.

The self-serving bias could result in individuals processing relevant as well as irrelevant information to arrive at the “fair allocation” in self-serving ways. Such self-serving notions of fairness can be manipulated by altering economically irrelevant procedural details. For example, ultimatum game proposals and responses are affected by the process by which the proposer is selected (Hoffman and Spitzer, 1982 and 1985; Hoffman et al., 1994); the arbitrary assignment of roles (plaintiff or defendant) strongly affects fairness perceptions in Babcock et al. (1995).

In this article, we present evidence of a self-serving bias in a simulated labor market experiment. Each subject was assigned the role of either an employer or an employee and each employee was assigned a wage and responded with an effort choice between 0.1 and 1.0, inclusive. The employee's payoff was decreasing in effort and therefore his own payoff-maximizing effort was 0.1, while the matched employer's payoff increased with higher effort. We examine results when the employer did not choose the wage, but was simply told the assigned wage and asked to state what effort he would provide in the employee role. Next the employee's actual effort choice was revealed and the employer was asked to state his level of satisfaction with this choice, on a scale of 1 to 7. More detail on the experimental design is presented in Appendix A.

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<sup>3</sup> Explanations include the tendency overestimate one's own contribution to joint tasks (Ross and Sicoly,

**Evidence** Subjects in the employer role generally state they would provide, at any given wage, more effort than subjects in the employee role actually provide. Let  $e^h$  denote the hypothetical effort stated by the employer and  $e^a$  denote the actual effort exercised by the employee. The table below gives a summary of the data:

Mean $e^h$	.381
Mean $e^a$	.329
# of observations where $e^h < e^a$	102
# of observations where $e^h = e^a$	90
# of observations where $e^h > e^a$	188

On average,  $e^h$  exceeded minimum effort by 23% more than did  $e^a$ , so that actual employer profits (and employee productivity) were substantially lower than they would have been with employer-indicated effort choices. It seems probable that this effect would be even greater with employer-generated wages.

We can test for the significance of the observed differences. A basic test that is easy to implement is the binomial test (Siegel, 1956):

$$Z = [(x - NP) \pm 1/2] / [\sqrt{NP(1-P)}],$$

where  $x$  is the number of observations in the category in question,  $N$  is the total number of observations, and  $P$  is the probability (under the null hypothesis) of getting an observation in this category. This test gives significance at a p-value of .00001. Alternatively, we can perform the more rigorous one-sided T-test of the null hypothesis that  $e^h = e^a$  against the alternative that  $e^h > e^a$ . We calculate the t-statistic to be 3.506, with a p-value of less than 0.0005. Hence, we reject that  $e^h = e^a$  against the alternative that  $e^h > e^a$ .

We test whether the employer's level of expressed satisfaction with the employee effort level is affected by the difference between the hypothetical monetary gain to the

employer and the actual monetary gain to the employer. Otherwise, the stated hypothetical effort would not be expected to affect the employer's expectation from the employee. An ordered probit regression of employer's satisfaction against monetary payoffs yields a log-likelihood of -532.837. Including the difference between hypothetical and actual payoff in the regression increases the log-likelihood to -467.547. Given the nested nature of the pure monetary model within the model with both monetary payoffs and the difference term, we can easily reject the view that the employer's stated hypothetical effort is not a genuine reflection of employer expectation. See Tables 1 and 2 for parameter estimates for the ordered probit regressions.

**Discussion** We have shown a real and consistent one-sided bias between hypothesized efforts and actual efforts, but have yet to demonstrate the self-serving nature of this bias. One way to see the self-serving nature of the bias is to look at the difference in implied shares. While both employers and employees declare, on average, an effort level in which the employee's share is greater, the employer's stated effort implies a more equal division. That difference is significant (see figure 1). The self-serving nature of the bias is also observable in the asymmetry in employer satisfaction with respect to whether  $e^h > e^a$  or vice versa. We find a rather consistent bias - a positive difference in effort levels must be 50% greater than the corresponding negative difference to induce the same change in employer satisfaction (see Figure 2 and Table 2).

The self-serving bias has important consequences for labor relations and productivity. Perceptions of fairness are critical in an employment context, since the labor contract is notably imprecise and behavior is substantially discretionary. This bias could lead

employers and managers to make poor predictions of employee perceptions of fairness and their consequent responses. An inappropriate wage would have direct adverse effects on productivity, manifested in shirking, strikes, and even sabotage.

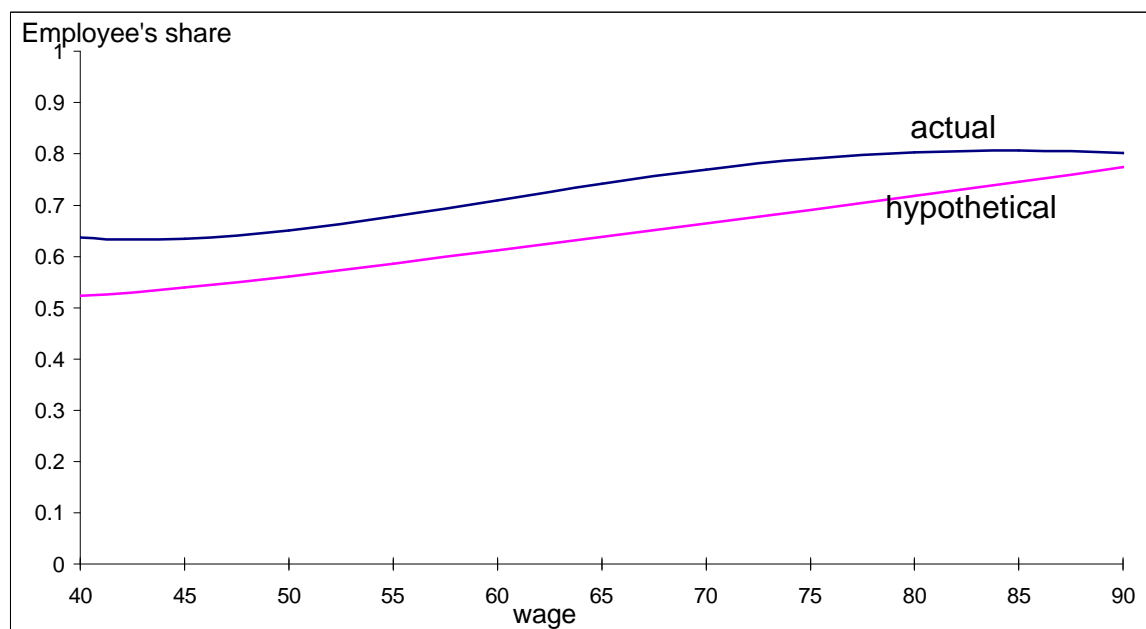
We feel that it is useful for managers and employers to be cognizant of the self-serving bias. Aligning perceptions and expectations of fairness seems crucial in interactive environments such as the workplace, as the consequences for productivity and labor relations may be large.

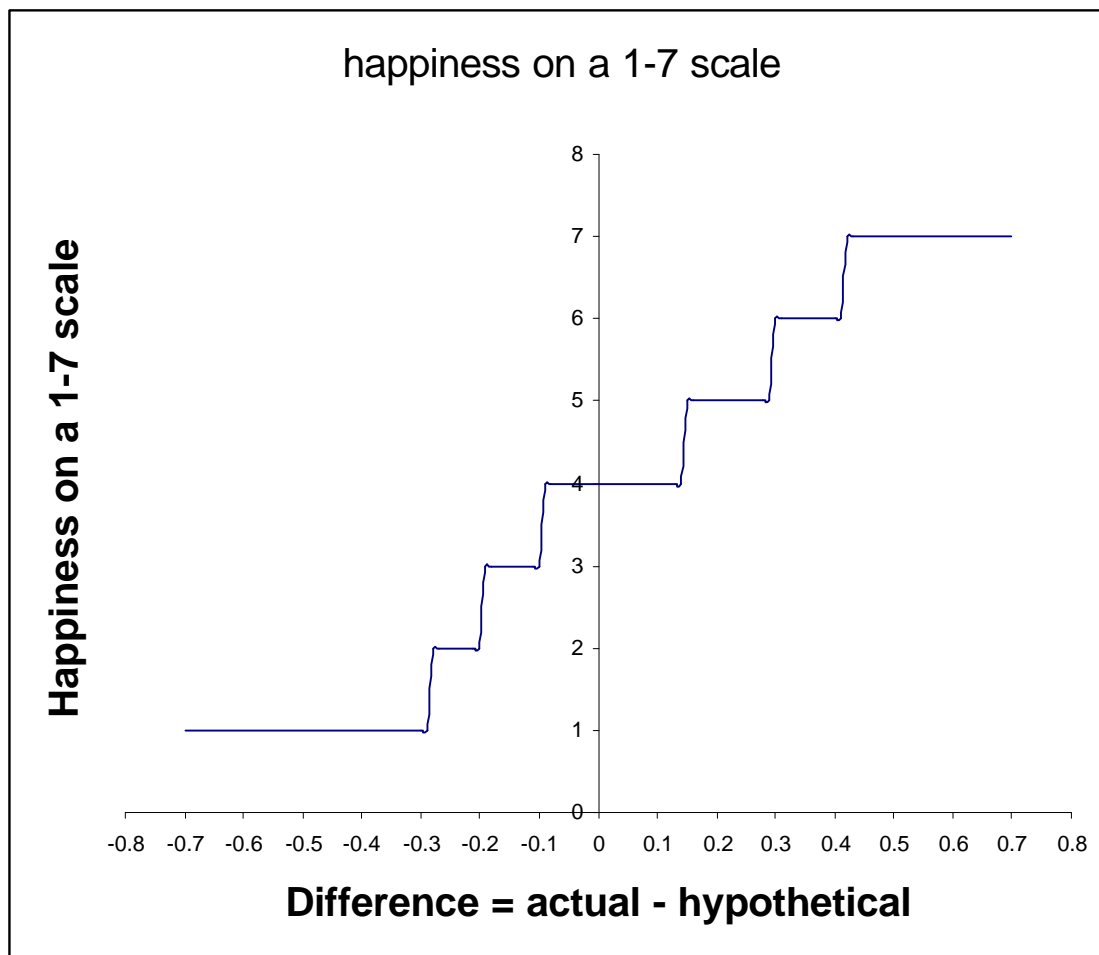
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**Figure 1** The employee's share under the employee's actual effort function (of wage) and under the employer's hypothetical effort function (of wage) over the wage range.



**Figure 2 Ordered Probit Results**

Key:

$D_i$  = Actual effort by employee - Hypothetical employee effort by employer

Score = A subjective measure of happiness by employer on a scale of 1-7.

$D_i < A_0$	Score = 1
$A_0 < D_i < A_1$	Score = 2
$A_1 < D_i < A_2$	Score = 3
$A_2 < D_i < A_3$	Score = 4
$A_3 < D_i < A_4$	Score = 5
$A_4 < D_i < A_5$	Score = 6
$A_5 < D_i$	Score $\geq$ 7

**Table 1: Satisfaction on monetary payoff**

Parameter	Estimate	Std. Dev.	t-statistic
$A_0$	6.821	0.970	7.033
$A_1$	11.627	0.881	13.197
$A_2$	16.248	0.750	21.658
$A_3$	27.252	0.798	34.157
$A_4$	33.891	1.066	31.781
$A_5$	39.349	1.253	31.403
$\sigma$	9.7061	0.383	25.312

Log Likelihood = -532.837

**Table 2: Satisfaction on monetary payoffs and difference between hypothetical and actual monetary payoff**

Parameter	Estimate	Std. Dev.	t-statistic
$\alpha$	-0.55092	0.044038	-12.5101
$A_0$	-4.5902	1.16776	-3.93078
$A_1$	-0.04036	1.2075	-0.03342
$A_2$	4.55945	1.13178	4.02858
$A_3$	15.4403	0.998559	15.4626
$A_4$	22.0714	1.08801	20.2861
$A_5$	27.3381	1.12889	24.2167
$\sigma$	7.69769	0.259208	29.697

Log Likelihood = - 467.547

## Appendix A: The Experiment

Subjects were divided into “employers” and employees” and separated into two rooms. An employee received a wage between 20 and 90 and was asked to specify an effort level between .1 and 1.0. There were 10 periods in each session and participants were anonymously re-matched in each period. The monetary payoff functions were common knowledge and were given by:

$$\Pi_F = (120 - w) \cdot e, \quad (1)$$

and

$$\Pi_E = w - c(e) - 20 \quad (2)$$

where F represents the employer (firm), E the employee, e denotes the employee’s effort, w is the wage, and c(e) is the cost of effort, a function increasing in e. The cost function facing an employee is as follows:

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Cost	0	1	2	4	6	8	10	12	15	18

The wage was determined by either a third party or by a draw from a bingo cage. Each employer was individually told the wage received by the paired employee and, before being told the employee’s choice of effort, was asked to state what effort he or she would have provided at the indicated wage. Next, the employee’s effort choice was revealed and the employer was asked to express an opinion about this choice on a scale from 1-7.