



Loss averse agents and lenient supervisors in performance appraisal[☆]



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ABSTRACT

A consistent empirical literature shows that in many organizations supervisors systematically overrate their employees' performance. Such leniency bias is at odds with the standard principal-agent model and has been explained with causes that range from social interactions to fairness concerns and to collusive behavior between the supervisor and the agent. We show that the principal-agent model, extended to consider loss-aversion and reference-dependent preferences, predicts that the leniency bias is comparatively less detrimental to effort provision than the severity bias. We test this prediction with a laboratory experiment where we demonstrate that failing to reward deserving agents is significantly more detrimental than rewarding undeserving agents. This offers a novel explanation as to why supervisors tend to be lenient in their appraisals.

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1. Introduction

Supervisors¹ routinely evaluate agents' performance without directly observing their efforts. Consequently, evaluation errors inevitably arise, generally undermining agents' incentives. These errors take two forms: (i) a supervisor (she) may assess low performance when in fact the agent (he) is duly exerting effort and thus she does not reward a deserving agent

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¹ We will use the synonyms *supervisor*, *rater*, and *principal* interchangeably.

(this is defined as a Type I error²); or (ii) a supervisor may observe high performance when in fact the agent is not exerting effort and therefore she may reward an undeserving agent (this is a Type II error). Systematic biases in performance appraisal usually emerge in two forms: *leniency bias* occurs when the supervisor assesses high performance “too often”, while *severity bias* occurs when the supervisor assesses low performance “too often”. A well-established and consistent empirical literature shows that in many organizations supervisors have systematic leniency biases (Prendergast, 1999). Many authors have extended the principal-agent model in order to provide a theoretical explanation for this consistent empirical evidence (See Tirole, 1986; Prendergast and Topel, 1996; Strausz, 1997; Vafai, 2010; Thiele, 2013, and more cited below). These papers always focus on the principal’s side. In this paper we instead focus on the marginal impact of the two errors on agents’ incentives to exert effort, and we explore how severe and lenient appraisal compare to one another in undermining agents’ performance. To our knowledge there is no experiment that compares how agents behave under each of the two biases. We show that agents with reference-dependent preferences are comparatively more motivated under leniency bias. This theoretical result is supported by the lab evidence we provide. If agents are more sensitive to Type I errors than to Type II errors, it might be optimal for supervisors to be lenient regardless of any other possible additional explanations.

In the paper we extend a standard version of the principal-agent model where severity and leniency biases are stylized. Under standard assumptions concerning risk aversion and separability of utility and effort, the model predicts that leniency and severity biases should be equally detrimental to the agent’s effort provision, as long as the sum of the two errors is kept constant. Following the path set by some other recent theory papers (Daido and Itoh, 2007; Herweg et al., 2010; Armantier and Boly, 2015; Daido and Murooka, 2016), we show that, under reference-dependent preferences à-la Koszegi and Rabin (2006), leniency bias is comparatively less detrimental to effort provision.

By means of a lab experiment we then discriminate among the predictions of the two models. In our laboratory experiment, subjects carry out an effort task that is initially paid piece-rate. In the following phase they must declare whether they would accept each of three hypothetical contracts: the *fair* contract has no appraisal error while the other two contracts imply either a *severe* or a *lenient* bias in appraisal. One of the three contracts is then randomly picked and subjects who accepted the contract can then carry out the task. Our main finding shows that failing to reward a deserving agent under a severe contract is significantly more detrimental to effort provision than rewarding an undeserving agent under a lenient contract, as the model with reference-dependent preferences predicts. We also demonstrate that regret aversion predicts the same behavioral pattern.

2. Literature review

Several streams of literature, including “Personnel Economics” (Lazear, 1999), “Agency Theory” (Hölmstrom, 1979; Aron and Olivella, 1994; Prendergast, 1999; Maestri, 2012), and “Organizational Studies” (Steers et al., 2004), deal with errors in performance appraisal. Most organizations rely on subjective performance appraisal in order to motivate their employees (Prendergast and Topel, 1993; Prendergast, 1999; MacLeod, 2003; Kambe, 2006; Maestri, 2012). These measures, used alone (Bull, 1987; MacLeod and Malcomson, 1989; Levin, 2003) or in combination with objective measures (Schmidt and Schnitzer, 1995; Pearce and Stacchetti, 1998; Bol and Smith, 2011), are nevertheless prone to errors. Among the most important types of errors classified by the literature on subjective appraisal there is *leniency bias* and *severity bias*.³ These errors reduce the scope of appraisal because they restrict the range of useful measures of performance, and thus weaken the incentive (MacLeod, 2003). A number of papers look at the origins of these appraisal errors with a particular focus on leniency bias. Such errors can be generated by unconscious cognitive and behavioral biases in the observing, elaborating, or recalling of rater performance information or in the process of generating the appraisal rating (Prendergast, 2002) or by feelings such as empathy and affection (Cardy and Dobbins, 1986; Varma et al., 1996) and manipulation (Higgins et al., 2003). The overconfident beliefs of an agent may also cause misalignment between the agent’s self-assessment and the supervisor’s performance appraisal (Maestri, 2012; Sautmann, 2013). Furthermore, a supervisor may find it convenient to provide lenient evaluations either because she colludes with the agent (See Tirole, 1986; Prendergast and Topel, 1996; Strausz, 1997; Vafai, 2010; Thiele, 2013; De Chiara and Livio, 2015), because of social interactions (Judge and Ferris, 1993; Grund and Przemek, 2012; Giebe and Guertler, 2012), or because of the desire to compensate for some uncontrollable stochastic effects that may undermine the rater’s evaluations (Bol and Smith, 2011). All these potential explanations for leniency bias are excluded by our design.

Empirical evidence of the existence of leniency bias has been long provided (e.g. Kingsbury, 1922; Thorndike, 1949; Landy and Farr, 1980). For instance Schoorman (1988) reports that supervisors who were involved in the hiring decision and

² In an ideal contract with perfect monitoring, the agent should receive a high remuneration whenever he exerts effort. The agent’s compliance with the prescribed behavior may thus be interpreted as the null hypothesis, so that the rater can both incorrectly reject the null and not reward a deserving agent (a Type I error) and incorrectly accept the null and reward an undeserving agent (Type II error).

³ Other rater’s errors are: (i) *central tendency* error derives from the propensity to avoid assigning extreme values; (ii) *halo effect* refers to a rater’s judgment on one scale influencing ratings on other scales; (iii) *contamination errors* affect the construct validity of ratings by relying on irrelevant information; (iv) *similar-to-me error* occurs when ratings are influenced because the rater has affinity with the rater; (v) *recency error* happens when recent performance is given too much weight as opposed to early performance within a given time interval, and on the opposite (vi) *first impression error* when early performance is given too much weight as opposed to more recent performance within a given time interval (See Thomas and Meeke, 2010 on classification of rater’s errors. See Rabin and Schrag, 1999 specifically on first impression bias).

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