

A Theory of Managerial Conservatism Arising From Private Information About Job Performance

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Abstract

I develop a model of managerial conservatism. The key feature is that a manager's performance is privately observed by her incumbent employer, but not by courts or the broader labor market. This generates an asymmetry in the equilibrium wage path: managers receive small wage increases after unexpectedly strong performance, but large wage reductions after unexpectedly weak performance. In consequence, even risk-neutral managers employed by risk-neutral firms avoid risky actions. Firms face a trade-off between restoring incentives for risky actions and retaining their information rent from private observations of ability.

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1. Introduction

A distinctive feature of middle management is the difficulty of objectively measuring and verifying performance.¹ For instance, consider a procurement manager at a large firm. Some aspects of her performance—such as the prices negotiated with suppliers—are verifiable. Yet many others—such as the quality of procured goods or the reliability of supplier relationships—are hard to convey credibly to a third party. In consequence, there is an asymmetry in information: many aspects of her performance are observed by her employer, but not by courts or the broader labor market.²

In a model of dynamic wage renegotiation with privately observed performance, I show that this asymmetry in information generates an asymmetry in the equilibrium response of wages to performance: unexpectedly strong performance generates *small wage increases*, whereas unexpectedly poor performance generates *large wage reductions*—either through pay cuts or separation into lower-paying jobs. As a result, managers bear most of the downside risk associated with poor performance while capturing only a limited share of the upside of good performance.

To see the intuition, consider a manager whose wage equals her expected output. Suppose current output is statistically informative about future output. After poor performance, expected future output falls, so the incumbent employer will not retain the manager at her old wage: she must either accept a pay cut, or separate and seek a job in the external labor market. Since separation is, in equilibrium, more attractive after worse performance (Gibbons and Katz 1991), either path entails a wage cut. By contrast, after good performance, the incumbent employer's willingness to pay to retain her rises, but her outside option does not: the external market does not observe her performance. Her wage thus falls one-for-one with declines in expected output but rises only in proportion to her bargaining share. With less than full bargaining power, the manager bears more downside risk than upside gain.

My first contribution is to formalize this intuition, and show that it applies more generally. I consider a manager whose ability is initially unknown, including to herself. In each period, the manager chooses an action, which, together with her ability, determines the distribution of output. After each output realization, the firm and the manager may bargain over the manager's wage; if no agreement is reached, the firm cannot produce output, and the manager must seek employment in the external labor market. When performance is publicly observed, the present value of expected future wages is linear in beliefs about future output. When performance is private, this relationship becomes concave. The argument above allowed wages to fall after poor performance; downward wage rigidity

¹For discussions in the context of procurement, see *e.g.*, Van Weele (1984) (p. 214), Tadepalli et al. (1991), Lardenoije, van Raaij, and Van Weele (2005) and Nollet, Beaulieu, and Fabbe-Costes (2017); for government bureaucrats, see, *e.g.*, Johnson and Libecap (1989); Dixit (2002); Burgess and Ratto (2003); De Janvry et al. (2023); for human resources managers, see, *e.g.*, Maurer (2015) and Boudreau and Lawler (2017); and for operations and plant managers, see, *e.g.*, Melnyk, Stewart, and Swink (2004) and Gargeya (2005). For general discussions of imperfect and subjective performance measurement in managerial roles, see, *e.g.*, Baker (1992); Baker, Gibbons, and Murphy (1994). For recent work on the incentives of middle managers, see, *e.g.*, Castro-Pires (2024); Alves and Lourenço (2023).

²For examples of the literature studying employment relationships with non-verifiable performance, see Fama (1980); Harris and Holmström (1982); Bull (1987); MacLeod and Malcomson (1989); Holmström (1999); Levin (2003); for examples of the literature studying relationships with private information about performance, see Waldman (1984); Greenwald (1986); Jovanovic (1979); Gibbons and Katz (1991); Gibbons and Waldman (1999); Pinkston (2009); Wu (2024).

(Kahn 1997; Bewley 1999) only strengthens the mechanism, since even modest underperformance triggers separation rather than renegotiation.

This result has an immediate implication for managers with discretion over actions. Consider a risk-neutral manager choosing between action a and an alternative a' , which has the same expected output as a , but generates a distribution over output that is less informative about the manager's ability. Define the joint surplus of the employment relationship as expected future output along the surplus-maximizing path of actions. By Blackwell's Theorem (1951, 1953), joint surplus is convex in beliefs about ability, so a generates more surplus than a' . When performance is *publicly* observed (and the labor market is competitive), the manager extracts this full joint surplus as wages and so she prefers a . When performance is *privately* observed, and the manager's bargaining share is sufficiently low, she prefers the less informative a' . Private information thus makes even a risk-neutral manager *information-averse*: she prefers actions which reveal less about her ability.

I interpret this second result as a rationale for managerial conservatism. For instance, I show that managers prefer (i) actions whose output is less sensitive to ability (*e.g.*, picking bonds rather than stocks); (ii) actions on which other managers herd (*e.g.*, among stocks, the stocks chosen by other managers); and (iii) actions where output is difficult to attribute to any single manager (*e.g.*, cross-functional initiatives with many decision-makers); and (iv) actions which preserve the status quo rather than initiate new programs. Turning to the model's comparative statics, I show that the effect on conservatism is larger when information is more closely-held, when the manager's bargaining share is small, and when the manager is less "secure" in her position.

This conservatism generates two distinct inefficiencies. First, the manager's actions may be *statically inefficient*: she may avoid actions with higher expected output in order to conceal her ability. Second, her actions may be *dynamically inefficient*: by concealing information today, the manager limits the firm's ability to assign her to actions she is well-suited for in the future.

Given these inefficiencies, a natural question is whether firms can design employment relationships that restore first-best incentives. The third contribution of the paper is to examine this employment-design problem. The firm faces a trade-off: policies that make the manager more willing to take risk—such as fixed wages, fixed-term employment, or commitments to publicly certify the manager's quality—also shift information rent from the firm to the external labor market. If firms and workers can commit to long-term, fixed-wage employment contracts, then first-best incentives for risk can be restored. In practice, contracts which require that workers commit not to leave employment are typically infeasible (MacLeod 2011). Under partial commitment, optimal employment design generally preserves some incentive to avoid risk.

Although the logic applies to any employment relationship in which performance is private and workers have some discretion over actions, I focus on middle managers for two reasons. First, private information is especially pervasive in middle management. Many line workers produce a physical output which can be verified in court; when output is verifiable, pay-for-performance contracts can implement first-best action choices. By contrast, such contracts are infeasible for

middle managers, whose output is typically difficult to measure or contract on.³ At the opposite extreme, many senior managers are incentivized through options-based compensation; middle managers' effects on firm value are typically too small for such instruments to be effective.

Second, a substantial literature documents conservatism among managers, especially middle managers. A stylized fact from recent work on innovation and entrepreneurship is that, relative to small firms, large firms struggle to pursue innovative, risky projects: they conduct a disproportionately small share of research and new product development (Bound et al. 1982; Scherer 1986; Holmstrom 1989; Acs and Audretsch 1988, 1990), and their research and development tends to be incremental rather than transformational (Prusa and Schmitz Jr 1991; Akcigit and Kerr 2018; Acemoglu, Akcigit, and Celik 2022). This difference appears to partly reflect the causal effect of firm size: for instance, going public reduces the quality of internal innovation, shifts firms toward “buying” rather than “making” innovation, and dampens risky investment (Aggarwal and Hsu 2014; Bernstein 2015; Asker, Farre-Mensa, and Ljungqvist 2015). This is puzzling since large firms have better access to capital and better-diversified firm owners (Arrow 1962; Kerr and Nanda 2015). I provide one explanation: even a risk-neutral manager may avoid risk because she bears the downside costs, but not the upside benefits, of information that risky decisions reveal about her ability.

Related literature. This contrasts to the leading existing explanation for managerial conservatism, which attributes conservatism to managers' own risk-aversion (Amihud and Lev 1981; Holmstrom and Costa 1986). Relative to this explanation, my approach has two advantages. First, rather than assume managers are risk-averse—which almost mechanically implies they avoid risky projects—I show that managers' reluctance to take risk arises endogenously under private information. Second, the risk-aversion view is incomplete in the sense that it argues that managers are averse to risk, but not that they are *especially averse to risk* relative to firm owners. In consequence, the risk-aversion view can explain why managers would be more cautious than the owners of *large* firms, to the extent that those owners are well-diversified; but it cannot explain why managers would be more cautious than the owners of *small* firms, who also have substantial human capital tied up in their business. Hence, the existing view struggles to explain empirical evidence that small firms grow *more* risk-averse as they increase in size. By contrast, I attribute managerial conservatism to an agency friction that applies more strongly in large firms than in small ones.

Methodologically, I contribute to three other literatures. First, the manager's problem recalls the literature on information design:⁴ in each period, the manager chooses an action (an “experiment”, in the language of information design), which generates a distribution over outputs (“signals”), and thereby affects the beliefs of the firm (the “receiver”) about the manager's ability (the “state”). To highlight this connection, I begin with a benchmark in which the manager's action is observable but not verifiable, which corresponds exactly to the commitment assumption in information design,

³This could be because managerial performance is difficult to measure (Prendergast 1999a) or to specify completely *ex ante* (Grossman and Hart 1986); because it involves many dimensions which are difficult to summarize in a single, verifiable index, so strong incentives on any observable measure distort task allocation (Holmstrom and Milgrom 1991; Prendergast 1999a); because outcomes depend on joint team or long-run decisions rather than an individual's contemporaneous actions (Baker, Gibbons, and Murphy 1994); or because relying on subjective evaluation invites gaming and influence activities rather than productive effort (Milgrom 1988; Prendergast 1993).

⁴For reviews, see Hörner and Skrzypacz (2017); Bergemann and Morris (2019); Kamenica (2019).

and then extend to the more realistic case of unobservable actions (moral hazard).

Second, I contribute to a literature on wage dynamics and renegotiation in long-term employment relationships (Flinn 1986; Thomas and Worrall 1988; MacLeod and Malcomson 1989; Beaudry and DiNardo 1991; Postel-Vinay and Turon 2010). The key departure from this literature is the presence of private information about worker ability. This departure has substance: under private information, a wedge opens up between the worker's prospects in the internal and external labor markets, which in turn generates the asymmetric wage responses that drive my results.

Finally, at times it will be helpful to cast the relationship between the manager and her employer in continuous time, following the literature on continuous-time contracting (Sannikov 2007, 2008; Faingold and Sannikov 2011). The key distinction is that I allow the incumbent employer's beliefs about the manager to diverge from those of the broader labor market.

Outline. Section 2 illustrates the main ideas in a simple example. Section 3 presents a more general model. Section 4 presents results for that model. Section 5 considers job design. Proofs are in the appendix; some additional results are in the Online Appendix.