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Asymmetric employer information, promotions, and the wage policy of firms ☆

Simon Dato [a], Andreas Grunewald [a], Matthias Kräkel [a], Daniel Müller [b,*]

[a] University of Bonn, Institute for Applied Microeconomics, Adenauerallee 24-42, D-53113 Bonn, Germany
[b] University of Würzburg, Chair for Contract Theory and Information Economics, Sanderring 2, D-97070, Würzburg, Germany

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ABSTRACT

This paper provides evidence that inefficient promotion strategies and large wage increases upon promotion may both arise as a consequence of asymmetric employer information. Building on the seminal work by Waldman (1984a) and Milgrom and Oster (1987), we first present a model that illustrates how both phenomena may jointly arise due to the information revealing character of promotions. Using experimental labor markets, we find evidence consistent with asymmetric employer information being a causal factor for both inefficient promotions and large wage increases upon promotion. Furthermore, we analyze the effect of asymmetric employer information on profits and turnover.

1. Introduction

Ever since the seminal contributions by Akerlof (1970, 1976) and Spence (1973), economists came to recognize that asymmetric information in labor markets is a major determinant of employers' personnel policies and an important source of inefficient market outcomes. Several pieces of empirical evidence document that asymmetric information across employers is prevalent, i.e., a worker's current employer can access more detailed information about a worker's ability than the external labor market (Gibbons and Katz, 1991; Schönberg, 2007; Pinkston, 2009; Kahn, 2013). This information asymmetry has been hypothesized to simultaneously affect two important features of personnel policies—allocation of workers to jobs and optimal wage schemes (Waldman, 1984a; Milgrom and Oster, 1987). Specifically, under asymmetric information, an employer optimally decides not to assign all workers to their output-maximizing jobs; i.e., promotion rules are inefficient. Moreover, a job promotion is accompanied by a substantial wage increase at the moment the worker climbs the hierarchical ladder. While a number of empirical contributions are in line with these implications (Baker et al., 1994a, 1994b; McCue, 1996; Bognanno, 2001; DeVaro and Waldman, 2012), there is no direct evidence for asymmetric employer information to be

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* Corresponding author.
E-mail addresses: simdato@uni-bonn.de (S. Dato), gruni@uni-bonn.de (A. Grunewald), m.kraekel@uni-bonn.de (M. Kräkel), daniel.mueller2@uni-wuerzburg.de (D. Müller).

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a causal factor for the empirical findings. Our paper attempts to narrow this gap by providing experimental evidence that asymmetric information across employers leads to inefficient promotion rules and large wage increases upon promotion.

To derive precise testable predictions, we present a stylized model that allows to jointly discuss the two fundamental perspectives on how asymmetric employer information affects personnel strategies. These two perspectives differ in the effect of promotion decisions on informational asymmetries. On the one hand, Milgrom and Oster (1987) analyze a setting in which promotion decisions have a direct effect on the distribution of information in the labor market. In particular, a worker is assumed to be invisible for the external labor market if he is not promoted by his current employer. In this case, only the current employer knows the worker's exact ability. Once promoted, however, a worker becomes visible and his ability perfectly accessible also for the external labor market. This idea has become known as the "invisibility hypothesis". Waldman (1984a), on the other hand, postulates that promotion decisions do *not* have a direct effect on the information distribution. On the contrary, asymmetric employer information is always present. While the current employer can perfectly assess a worker's ability, the external labor market does not learn the worker's exact ability irrespective of the current employer's promotion decision. In this setting, a promotion may nevertheless indirectly reveal valuable information to the external labor market if the current employer can reasonably be expected to promote only workers of relatively high ability. This idea has become known as the "promotion-as-signal hypothesis".

Our theoretical analysis reiterates the arguments of these seminal contributions and shows that either form of informational friction induces inefficiently few promotions and large wage increases upon promotion. Essentially, these results are rooted in the fact that alternative employers offer substantially lower wages for non-promoted workers than for promoted workers under both forms of asymmetric employer information, because a non-promotion is recognized as a signal for low worker ability. In consequence, the current employer herself has to offer a substantially higher wage after promoting a worker to prevent the worker from being poached. Taking this into account, a current employer optimally decides not to promote a worker who generates only slightly higher output if being promoted to save on wage costs.[1] As our setup incorporates the ideas of both Waldman (1984a) and Milgrom and Oster (1987), we are furthermore able to show that the effects of asymmetric employer information on personnel policies are stronger in the former setting; i.e., promotions are more inefficient and the wage increase upon promotion is larger under the promotion-as-signal hypothesis than under the invisibility hypothesis.

Based on these theoretical predictions, the main part of the paper provides evidence for the causal impact of asymmetric information across employers on personnel policies. For this purpose, we conduct a laboratory experiment that allows us to exogenously vary the degree of information asymmetry. As a workhorse, we use a simple choice paradigm in which three firms compete for one worker. One of the firms is the worker's current employer, whereas the two other firms are alternative employers representing the outside labor market. First, the current employer decides whether to assign the worker to a basic job, where ability has only little impact on output, or to promote the worker to a higher hierarchy level, where output depends stronger on ability. Thereafter, firms can submit wage offers and the (non-strategic) worker accepts the highest wage offer.

We implement three different treatment conditions. As a benchmark, we consider a baseline treatment with publicly known ability (*ka*). As the worker's ability is always known to both his current employer and the alternative employers, information is symmetrically distributed in this setting. Compared to *ka*, we introduce two different forms of asymmetric employer information. In either case, the current employer perfectly knows her worker's ability, but the alternative employers face an informational disadvantage. First, we study a treatment in which the worker's ability is always unknown to alternative employers, who only observe the worker's job assignment. This treatment with unknown ability (*ua*) reflects the ideas presented in Waldman (1984a). Second, following Milgrom and Oster (1987), we study a treatment featuring invisibility (*invis*), in which the worker's actual ability will only be revealed to the alternative employers if he is promoted.

We start our empirical analysis by showing that, given either form of asymmetric employer information, a promoted worker is associated with significantly higher expected ability than a non-promoted worker.[2] Importantly, this difference in expected abilities is reflected in the alternative employers' wage setting behavior: poaching offers to promoted workers turn out to be significantly higher than those to non-promoted workers. Concerning the *ua* treatment, this finding delivers strong empirical support for the promotion-as-signal hypothesis (Waldman, 1984a). This idea is at the core of a series of theoretical contributions that analyze how the signaling role of promotions affects labor market outcomes. Specifically, it is shown that the signaling role of promotions can account for fast-track promotions, the Peter principle, and salary increases following demotions (Bernhardt, 1995), explains the use of up-or-out contracts in jobs where firm-specific human capital is of little importance (Ghosh and Waldman, 2010), and constrains the design of rank-order promotion tournaments (Zabojnik and Bernhardt, 2001; Zabojnik, 2012; DeVaro and Kauhanen, 2016; Gürtler and Gürtler, 2015a, 2015b).[3] Our findings provide empirical support for the key mechanism in this strand of the theoretical literature on personnel strategies.

[1] Building on Waldman (1984a), Golan (2005) shows that efficiency with regard to promotions is restored if the worker's current employer can make a final counter wage offer after the worker received the wage offers from alternative employers. According to Waldman and Zax (2016), however, the inefficiency regarding promotion decisions may become drastic—in the sense of not even the ablest worker being promoted—even when the current employer can make counter offers if a worker's productivity depends on his ability on all jobs that he can be assigned to.

[2] In both treatments we elicited ex ante expectations, i.e., expected worker ability for the two possible job assignments before the current employer makes her promotion decision.

[3] See Waldman (2013a) for a recent overview.