To Tell or Not To Tell: The Incentive Effects of Disclosing Employer Assessments*

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Abstract

Should employers disclose their assessments of their employees? Popular managerial advice suggests that telling an employee that she is assessed to have high potential leads to greater effort and engagement, boosting firm profits. However, some employers still choose to withhold employee assessments. What explains this observation? We show that if the internal accounting system is weak, telling an employee that she is assessed to have high potential increases her incentive to manipulate the accounting report instead of working harder, thereby decreasing firm profits. Thus, we explain why some employers withhold assessments.

Keywords— Talent management, information disclosure, performance evaluation, employee assessment, human resource management

JEL Classification— D21, D23, D82, D86, J24, J53

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1 Introduction

> ...the question of 'tell or don't tell' has been well and truly answered with a resounding 'yes.'
>
> —
>
> James Peters
>
> *Senior Partner, Korn Ferry*

Employers often have a good gauge of which junior-level employees have the *potential* to be leaders or managers within the firm (Ready et al. 2010). We call this gauge an employer's *assessment* of whether an employee has the potential to be successful in a leadership or managerial role. Should employers *disclose* (or *tell*) these assessments[1] to their employees? The popular managerial guidance book, 'One Page Talent Management' (Effron and Ort 2010), suggests that many employers prefer to withhold their assessments.[2] Foremost, the authors of the book conjecture, employers worry that disclosing assessments might lead some employees to become discouraged about their prospects within the firm, thereby decreasing productivity. The authors bemoan this lack of transparency and argue why employers should be more transparent. In this paper, we suggest that this advice to be more transparent overlooks a vital determinant of the decision to tell – the *strength* of the firm's internal accounting system (that is, how easy or difficult it is for the employee to generate a false accounting report). We thus explain why some employers choose not to disclose assessments.

Popular managerial guidance books, advice from consulting firms, and prior literature have extensively focused on the employees' effort incentives who are told of their potential to advance within an organization. Common reasons for not telling employees include avoiding employee demotivation (Beer 1987) and reducing employee turnover. Reasons for transparency include increased employee

[1] Disclosing assessments is different from providing performance feedback where the employer provides a specific evaluation of the employee's performance on a task without alluding to her potential to advance in the future. A helpful framework is to think of assessments as forward-looking information and performance feedback as backward-looking information about the employee.

[2] An informal survey estimates that 73% employers prefer not to disclose assessments: `https://talentstrategygroup.com/wp-content/uploads/2020/02/Calculating-the-Optimal-Length-of-Time-to-Lie.pdf`.

engagement and commitment and greater trust in the reward system (Lawler 1972, Hamner 1975, and Effron and Ort 2010). While the academic literature might not have reached a consensus on what should be done, consulting firms and managerial advice books advocate transparency. For instance, the epigraph above recommends that employers should disclose assessments.[3] A sentence from another managerial advice book, 'Leading the Way' (Gandossy and Effron, 2004), reads, '...we think it is best to let high-potentials know their status... if there are real consequences to this status.'

Despite popular managerial advice, one in three employers prefers to withhold assessments as indicated by prior studies (Bournois and Roussillon 1992, Dries and Pepermans 2008, Silzer and Church 2010). What explains this observation? It might be simplistic to argue that employers do not tell because they fear that some employees might be discouraged. Instead, we argue that popular managerial advice misses a key determinant of employers' decision to disclose – the internal accounting system's strength and the employees' ability to generate false accounting reports. Specifically, disclosing assessments not only influences the employees' effort decisions but also affects the employees' decision to manipulate the accounting report. The ability to manipulate the accounting report decreases the employees' incentive to exert effort, especially when the accounting system is weak[4]. This decrease in effort leads to lower expected output for the employers. Consequently, employers prefer not to disclose assessments.

To show the above effect, we develop a simple three-stage model in which an employer interacts with an employee (referred to as 'she') who can be of two types: low and high, where low or high refers to the employee's potential to be successful in a managerial role (Fuhl 2020). Neither the employer nor the employee knows the type at the beginning. In Stage 0, the firm implements a screening test (for instance, interviews, evaluations, or assessment tests such as 360-degree evaluations). The test's result is potentially informative about the employee's type and forms the basis for the employer's assessment of the employee.[5] Notably, the employer commits to a disclosure

[3] The full article is available at `https://www.kornferry.com/insights/articles/tell-or-dont-tell-talking-talent-your-employees`.

[4] In our model, an accounting system is weak or strong depending on the cost of manipulation incurred by the employee. If the cost of manipulation is sufficiently low (high), we call this system a 'weak (strong) accounting system.'

[5] In our model, we use 'results of the screening test' and 'assessment' as synonyms.

strategy regarding the screening test results *before* learning about them. Assumptions of this form are standard in the 'Bayesian Persuasion' literature pioneered by Kamenica and Gentzkow (2011). In reality, the employer can commit to a disclosure strategy by developing a reputation for disclosure or nondisclosure. We assume that the results of the screening test are verifiable. This allows us to avoid any signaling issues arising from the disclosure of the test results.

In Stage 1, the employee exerts effort into an entry-level task and subsequently submits an accounting report about the output generated. In Stage 2, the employee is potentially promoted to a managerial role. We note that, for simplicity, there is no moral hazard in the managerial role. Thus, the employee only chooses an effort level for the entry-level task, not for the managerial role. The employee must 'succeed' in the entry-level task to develop the knowledge to be productive in the managerial role. Both types' productivity is similar in the entry-level task (that is, the success only depends on the effort, not on the type). However, only the high type can yield the employer benefits in the managerial role. Thus, the employer has strong incentives *only* to promote an employee who meets both of the following: has high potential and has been successful in the entry-level task. Put differently, the employer never promotes an employee who has either failed the entry-level task, or has low potential, or both.

We can understand the employer's incentive only to promote a high type who has successfully completed the entry-level task as follows. To succeed in the managerial role, the employee needs to have the right potential (such as the right mix of innate skills, ability, or talent) and have the prerequisite knowledge of running the business (which comes from success in the entry-level task). If either the correct potential or prerequisite knowledge is missing, the employee will not be productive in the managerial role. In other words, our model features a distinction between innate skills and acquired knowledge (as previously evidenced by, for instance, Silva 2007 and Ullen et al. 2015).

We briefly summarize the timeline (and leave a diagrammatic depiction and full discussion to Section 2 below). In Stage 0, the employer commits to either disclosing or not disclosing the assessment, after which it conducts the screening test. In Stage 1, the employee exerts effort into the entry-level task and subsequently generates an accounting report about the output generated. Upon observing the employee's report, the firm chooses to promote the employee to the managerial

role. In Stage 2, if promoted, the employee works on the managerial role, at the end of which payoffs are realized.

Our first set of results (in Section 3) deals with the employee's effort incentives when the result of the screening test is disclosed (or not), and the employee cannot manipulate the accounting report. In a sense, these results replicate prior research about how the employee's effort decision changes when the employer discloses assessments. We show that disclosing the assessment to the employee in our model leads to an effect similar to the Pygmalion effect (Eden, 1990). The Pygmalion effect says that productivity in management (and other settings) is a self-fulfilling prophecy. An example of this is if managers are publicly praised as "good", they work hard to maintain this perception. This is precisely the effect we demonstrate. The intuition for this effect is straightforward. We show that when the employee is disclosed to have low potential, she rationally expects not to be promoted and exerts no effort. On the other hand, if the employee is disclosed to have high potential, she exerts more effort since she anticipates a promotion upon successfully completing the entry-level task. The employee who is not told the results of the test exerts a moderate amount of effort. This is because her effort incentives are ameliorated by the chance that she might be of the low type and might not be promoted. In summary, the employee who is disclosed to have high potential exerts the most effort followed by the employee who is not told anything followed by the employee who is disclosed to have low potential.[6]

Anticipating the changes in the employee's effort decisions, the employer considers the following trade-off when evaluating whether or not to disclose the assessment. Disclosing the assessment leads to an increased effort from the high type. However, it also leads to a decreased effort from the low type. We show that the expected benefit from the increase in effort exceeds the expected loss from the decrease in effort. Thus, in the setting where the employee cannot manipulate the accounting report, it is always beneficial for the firm to disclose assessments. This set of results replicates the conjectured reasons employers withhold assessments and the advice provided

[6] Without disclosure, the firm hires the low type because she is productive in the entry-level task. The low type's effort unravels with disclosure, which would make the firm *indifferent* about hiring the low type (in our setting without costs of hiring). For simplicity, we assume that the employer hires the low type even when the assessment is disclosed. Additionally, with a little tweak to our model, the results would remain robust to assuming that hiring the low type is costly. Specifically, if we assume that even with zero effort, both types produce a non-stochastic amount, γ, and obtain a fixed wage, $w = \gamma$, then the results of the model remain unchanged.

to disclose assessments.

The results in section 3 show that popular managerial advice considers employers to be stuck in a 'bad' equilibrium where they 'believe' that the low type's demotivation due to disclosure is a more serious issue than it actually is. However, in section 4, we explain nondisclosure using a more nuanced rationale for employer behavior. The critical change in section 4 is that the employee can manipulate the accounting report generated at the end of the entry-level task in Stage 1. We show that the employee chooses to substitute effort in the entry-level task with manipulation of the accounting report. When the accounting system is weak, this substitution is stronger for the employee disclosed to be the high type than for the employee disclosed to be the low type. Intuitively, when the employee is disclosed to be assessed as the high type, she anticipates a promotion. This generates a strong incentive to 'do whatever it takes' to succeed in the entry-level task. If the accounting system is weak, the employee manipulates the accounting signal to report a success instead of increasing her effort. Compare this to the case where the employee does not know her assessment. In this case, the employee's promotion hinges on whether she might be the high type. If she is not the high type, generating a success in the entry-level task (through effort or manipulation) is futile since the employer would never promote her. This uncertainty about her type reduces her incentive to manipulate the accounting report even in a weak accounting system. Subsequently, not disclosing the assessment is better for the employer since the employee relies less on manipulation and generates more output in expectation. Thus, we show that if the accounting system is weak enough, employers prefer not to disclose assessments.

As a summary, in the case with no manipulation, disclosing to the employee that she has high potential leads to an increase in the employer's profits. However, in the case with manipulation and a weak accounting system, disclosing to the employee that she has high potential leads to a decrease in profits. Interestingly, the mechanism is remarkably similar in the settings with and without manipulation. Disclosing the assessment strengthens the high type's incentives to succeed (or at least 'appear' to) in the entry-level task. In the case without manipulation, the high type exerts greater effort to succeed, which leads to increased output for the employer. However, in the case with manipulation and a weak accounting system, the high type manipulates the accounting report to appear to succeed, which leads to lower output generated for the employer.

In addition to the decrease in output due to manipulation in a weak accounting system, another effect manifests. In our model, when the employee who (1) has low potential or (2) has failed in the entry-level task (or both) is promoted, the employer experiences a cost of incorrect promotion. Put another way, when the wrong employee (either due to her type or her lack of prerequisite knowledge or both) is promoted, funding this person leads to costly waste of resources. When the employee can manipulate the report in a weak accounting system, the employer makes an inefficient promotion. This additional cost of manipulation– the costly waste of resources– makes it further attractive for employers not to disclose assessments.

1.1 Background Literature

We contribute to the literature by explaining an apparent paradox as to why employers withhold employee assessments. This observation is particularly puzzling, given the wealth of advice suggesting the contrary. We provide a solution to this puzzle, which is the first of its kind to the best of our knowledge. Our solution links this observation to employee effort and the strength of the accounting system. Prior literature has focused extensively on the employee effort aspect while largely overlooking the accounting system's strength. For instance, Lizzeri et al. (2002) examine the effects of providing performance feedback on employee effort and how that affects the cost of the optimal contract. They conclude that not providing feedback is optimal since it reduces the expected cost of compensation. While we reach a similar conclusion, in our model, we demonstrate this *without* using a performance contingent wage contract by instead focusing on the strength of the accounting system. Hamner (1975) and Lawler (1972) provide various reasons (such as increased employee engagement and commitment) as to why employers should be transparent with their employees. We examine an outcome that is in contradiction to their recommendation.

In recent years, other papers have also looked at theoretical aspects of employers providing feedback to employees. For instance, Goltsman and Mukherjee (2011) and Aoyagi (2010) outline the optimality of no, partial, or complete disclosure of feedback in a tournament setting. Gershkov and Perry (2009) too examine performance reviews in a tournament setting; however, their focus is primarily on the timing of the performance review rather than the disclosure of the results. In Prendergast (1992), an employer observes the employee's ability after the first-period task and

uses a fast-track promotion to signal to high-ability workers. Our model avoids signaling issues by assuming the employer's assessments are formed due to a verifiable test.

Another related stream of literature examines communication between a principal and a better-informed agent. Specifically, this literature analyzes how optimal contracting or the use of management control systems can mitigate this information asymmetry (see for example Christensen (1981); Penno (1984); Christensen (1982)). However, our setting differs from this literature as we assume a better-informed principal (employer). Consequently, our analysis focuses on the principal's decision to disclose information rather than contracting with the agent to receive information.

While our setting is novel, the economic trade-off we identify has been previously explored in other situations. The idea is that a principal might prefer to withhold incentives to reduce costs of manipulation. In our model, the employer (principal) withholds the screening test results under certain conditions so that the employee (agent) works instead of manipulating the output. Similarly, Goldman and Slezak (2006) explore the idea that stock-based compensation might not only induce effort from employees but also cause them to misrepresent performance. Dutta and Gigler (2002) demonstrate that compensation contracts tied to earnings might encourage greater earnings management. This effect can be mitigated by eliciting private information from managers through the use of earnings forecasts.

2 Model Setup

There are two risk-neutral players: a hiring firm (also called 'employer') and an employee (also referred to as 'she'). The model has stages 0, 1, 2. At stage 0, the employer decides whether to conduct a screening test and chooses a disclosure strategy. In stage 1, the employee exerts effort into an entry-level task. At the end of this task, the employee can engage in personally costly activities to manipulate the accounting report about the entry-level task's outcome. Based on this report, the firm decides whether to promote the employee to the managerial role. In stage 2, if promoted, the employee works in the managerial role. At the end of the second stage, the payoffs are realized. The timeline of the game is depicted in Figure 1.

Stage 0 – Screening System: There are two types of employees – low and high, where the

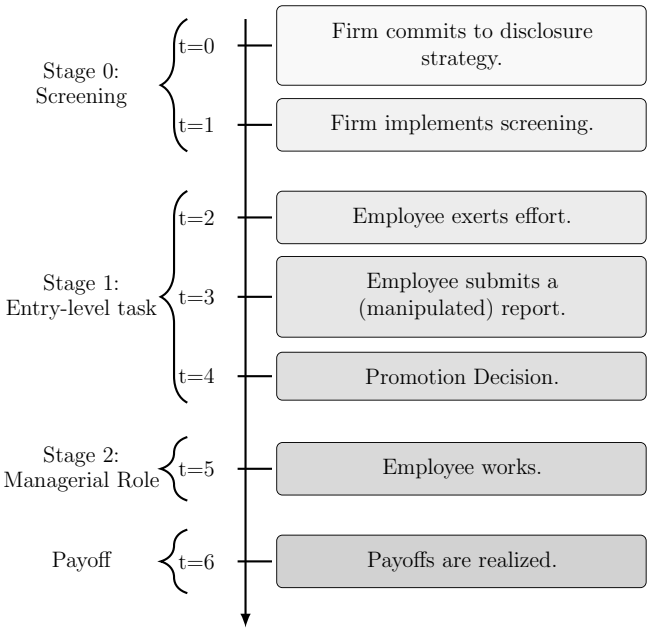

Figure 1: Timing

low/high refers to the employee's potential to be successful in a managerial role. The types are unknown to the employer and the employee. The prior probability that an employee is the high type is β. The employer needs to identify the employee's type to promote efficiently. The employer can do this by implementing a screening test.

Implementing the screening system is costless. With probability s, the screening system reveals the true type, and with probability $(1 - s)$, the system is uninformative. Similar to Kamenica and Gentzkow (2011) or Heinle and Verrecchia (2016), the firm commits to a disclosure strategy regarding the screening test results before conducting the test. The firm has three disclosure choices: (1) the test revealed that the employee has high potential; (2) the test revealed that the employee has low potential; or (3) the test revealed no information[7]. As a consequence of Assumption 2 below, the analysis for disclosure choices (2) and (3) is identical. Intuitively, the firm only cares to identify *whether* the employee has high potential or not. Hence, in the subsequent analysis, we suppress disclosure choice (3) and only examine disclosure choices (1) and (2). We assume that the

[7] The third disclosure choice is unlike the classical voluntary disclosure setup in, for instance, Dye (1985), where the informed party cannot communicate that it does not have information. However, our paper's results are robust to assuming that the firm *cannot* disclose to the employee that the test was uninformative. This is guaranteed by 'Assumption 2' below, which states that the firm prefers not to promote the employee without information about the her type.

screening test result is verifiable.[8]

Stage 1 – Entry-Level Task: Both the types can generate output in the entry-level task. The employee makes an unobservable effort choice, $e \in (0, 1)$, which is associated with a personal cost of $\frac{ce^2}{2}$. With probability $p(e)$, the entry-level task is a success and yields $X_1 > 0$ to the firm. With the complementary probability of effort, the firm receives 0 output. Similar to audit quality in Lu and Sapra (2009), we assume that $p(e) := e$. The employee's Stage 1 outside option is assumed to be 0.

After privately observing a signal y_j, the employee submits a report, r_j, about the entry-level output with $j \in \{s, f\}$ (where the s and f stand for success and failure respectively). As in Gao and Zhang (2019), the employee can engage in manipulation m, which is associated with a cost of $\frac{km^2}{2}$. With probability m, the manipulation is successful. Thus, when the employee observes the true accounting signal to be y_f, she can manipulate the report to instead show y_s with probability m. The cost coefficient k is a measure of the strength of the internal accounting system. Higher values of k represent a stronger system, while lower values represent a weaker system.

Stage 2 – Managerial Role: Only the high type who is successful in the entry-level task can generate output in the managerial role. The managerial role is always associated with a cost of $K > 0$ to the firm. This cost K captures the investment of resources by the firm. If a high type employee who has succeeded in the entry-level task is promoted to the managerial role, she produces an *effort-independent* output of $X_2 > 0$. Any other combination of employee type and success in the entry-level task produces 0 output. We reiterate that for simplicity of intuition, there is no moral hazard in this stage. We define $Y := X_2 - K > 0$. As in Hermalin and Weisbach (1998) and Laux (2017), being promoted yields a personal benefit of B to the employee. However, if the employee is not promoted, she leaves the firm for a Stage 2 outside option $\theta > 0$.[9] $B - \theta$ is the difference between the personal benefit of being promoted over the guaranteed outside option.

[8] Verifiability implies that the employer cannot lie to the employee about her type. However, it does not preclude the outcome that the employer assesses the employee's type and does not disclose this assessment to the employee.

[9] We note that the employee's outside option in Stage 2 is θ, while the outside option in Stage 1 is 0. This difference captures the observation that most employees at the entry-level have few other options or opportunities. However, employees exiting a firm tend to have better outside options (even if they have not been stellar employees), as can be seen with the number of job advertisements requiring previous work experience. Alternately, we could assume that the employee's outside option is 0 independent of the stage without qualitatively changing our results.

This difference is a measure of the attractiveness of the promotion. We assume that the employee is paid a guaranteed fixed-wage in each period, normalized to 0.

Stage 3 - Payoff: In stage 3, the payoffs are realized.

Below, we list a few important assumptions.

Assumption 1. *$B > \theta$ that is, the promotion benefit is more desirable to an employee than the outside option.*

Assumption 2. *Ex-ante, without information about the employee's types, it is inefficient for the firm to continue the project. Equivalently, the probability of being the high type is sufficiently low. Formally, we assume:*

$$\beta X_2 < K$$

Assumption 3. *To ensure interior solutions for the effort $e \in (0,1)$ and manipulation $m \in (0,1)$, we assume the following:*

1. $(B - \theta) < c$
2. $(B - \theta) < k$

2.1 Discussion of Model Setup

A few elements of our model merit further discussion. First, we discuss the interplay of potential and knowledge in an employee's success in the managerial role. Only a high potential employee who has succeeded in the entry-level task can succeed in the managerial role in our model. To succeed as a manager, an employee needs to have the correct 'innate ability' (or potential) and knowledge (which comes from success in the entry-level task). This setup is typical in everyday situations. For instance, consider an audit firm. To be a partner, an auditor needs to have the right ability (such as networking skills or leadership or what we call potential in our model) and needs to know the basics of auditing, which only comes from doing well in the junior level positions. Consider another contrived example: Robert Lewandowski, one of the greatest soccer strikers of this generation, plays for the Bundesliga club, Bayern München. However, he is not the captain despite being an exceptionally skilled soccer player. It appears that soccer skill is only a necessary

condition to be a captain of a soccer team; not a sufficient condition. In the verbiage of our model, Lewandowski has the prerequisite knowledge of soccer; however, he might not have the potential to be the captain. Thus, we believe that our model setup, wherein the employer only promotes an employee who has successfully completed the entry-level task and has high potential, has a strong basis in reality.

Second, we explain the assumption that the employer commits to a disclosure strategy at $t = 0$. This assumption allows us to examine the effects of disclosure by preventing inferences by the employee. For instance, if the firm chose the disclosure strategy after observing the employee's type and chose not to disclose, the employee would make a negative inference about her promotion prospects. This inference prevents a clean analysis of the differences between the disclosure and withholding of perceptions. In practical terms, the employer can commit to a disclosure strategy by building a reputation for disclosure/nondisclosure. This interpretation is supported by the implicit contracting approach pioneered by Bull (1987) and MacLeod and Malcomson (1989) and further discussed in Prendergast (1992).

Third, we discuss the employer's screening technology. An alternative technology could be such that with probability s, the employer gets correct information about the employee's type, and with probability $1 - s$, the employer gets incorrect information (instead of no information) about the employee's type. With such a technology, our results would change. However, this newly described setting seems less realistic than the one we use through the model. In any assessment setting (not necessarily one akin to the setting we have in mind in our model), for instance, a college-campus job interview, it is easy to distinguish between the 'good' and the 'bad.' Very rarely will an interviewer confuse a straight-A student for a straight-C student. However, there might be students who the interviewer might not be so 'sure' about being good or bad. Thus, we believe that it is more natural to assume that the screening technology provides a combination of correct information and no information versus correct information and incorrect information.

Finally, we discuss Assumption 1 and Assumption 2. Assumption 1 is necessary to induce the employees to exert effort. If $\theta > B$, the employee would prefer to get fired and would never work. Assumption 2 helps in simplifying calculations. The results assuming $\beta X_2 > K$ are qualitatively identical to the results we derive in this paper. The results without Assumption 2 are available

upon request. Additionally, Assumption 2 is not removed from reality. Indeed, in most settings, the number of high-potential types is much lesser than the number of low-potential types (or that β is sufficiently small). For instance, audit firms often hire large 'staff' cohorts. However, only a tiny fraction of this cohort ever makes it to 'partner.'

3 No Manipulation: Disclosure and Effort

In this section, we replicate some of the insights found in popular managerial guidance and prior literature. The critical element here is that the employee cannot manipulate the accounting report at the end of the entry-level task. We solve this section by using backward induction.

3.1 No Screening

When the firm does not conduct a screening test, it is always uninformed about the employee's type. The firm obtains the following payoff from the employee with $\hat{e}$ denoting a conjecture about the employee's effort. Note that each type will exert the same effort.

$$U_F^{nS} = \hat{e}X_1 \tag{1}$$

Given assumption 2, the firm never promotes an employee after Stage 1. The term above on the right-hand side is the expected output from the entry-level task. At the start of Stage 1, the firm would like to commit to promoting both types to enjoy $\hat{e}X_1$ from the entry-level task. However, the firm would renegotiate this commitment at the end of Stage 1 as the cost of promotion exceeds the expected benefit. Anticipating this, the employee exerts no effort, and therefore $\hat{e} = 0$. Consequently,

$$U_F^{nS} := 0 \tag{2}$$

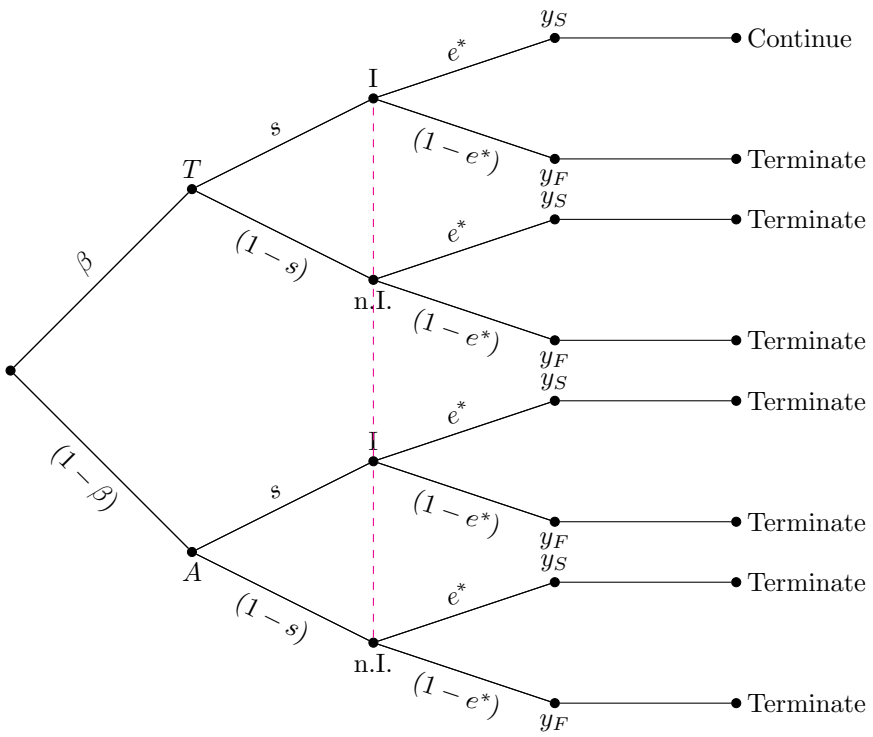

Figure 2: Game tree with screening without disclosure and without manipulation

3.2 Screening

It is easy to observe that at the end of Stage 1, the firm would only promote the employee who is assessed as the high type and has successfully completed the entry-level task. If any other permutation of type and success in the entry-level task is promoted, it would cost the firm K.

3.2.1 Screening Test: No Disclosure

Conducting a screening test changes the employee's effort incentives. The employee anticipates that there is a chance that she might be assessed as high, in which case a promotion is imminent if she succeeds in the entry-level task. This chance of promotion provides the employee with an incentive to work as compared to the case without screening where the employee has no chance of promotion. Note that since there is no disclosure, both types exert the same effort since they are symmetrically uninformed. Figure 2 depicts the game tree, given no disclosure and no manipulation.

The employee obtains the following payoff:

$$\beta seB + (1 - \beta se)\theta - \frac{ce^2}{2} \tag{3}$$

The first term captures the benefit of promotion given that the employee is a high type, assessed as such, and succeeds in the entry-level task. The second term represents the guaranteed outside option if the employee is the low type, or is not recognized as the high type, or fails the entry-level task. Finally, the third term represents the cost of effort. The employee maximizes the above payoff with respect to effort yielding the following equilibrium effort level:

$$e_H^* = e_L^* = e^* = \frac{\beta s(B - \theta)}{c} \tag{4}$$

The equilibrium effort level increases in the prior probability of being the high type, the probability of the screening test being informative, and the attractiveness of the promotion. The equilibrium effort level is decreasing in the cost of effort. By assumption 1 and 3, $e^* \in (0, 1)$.

Given the equilibrium effort level, the firm's payoff is of the form

$$U_F^{S,nD} := e^*(X_1 + s\beta Y) \tag{5}$$

The employer only obtains a payoff when the employee succeeds in the entry-level task, with probability e^*. The first term within the parentheses captures the benefit whenever the employee succeeds in the entry-level task. The second term within the parentheses captures the outcome of the managerial role. The firm only promotes an employee to the managerial role when the employee is the high type and is identified as such, with probability $s\beta$.

3.2.2 Screening Test: Disclosure

The game tree with disclosure and no manipulation is depicted in Figure 3. If the employee is disclosed to be the high type, she obtains the following payoff:

$$eB + (1 - e)\theta - \frac{ce^2}{2} \tag{6}$$

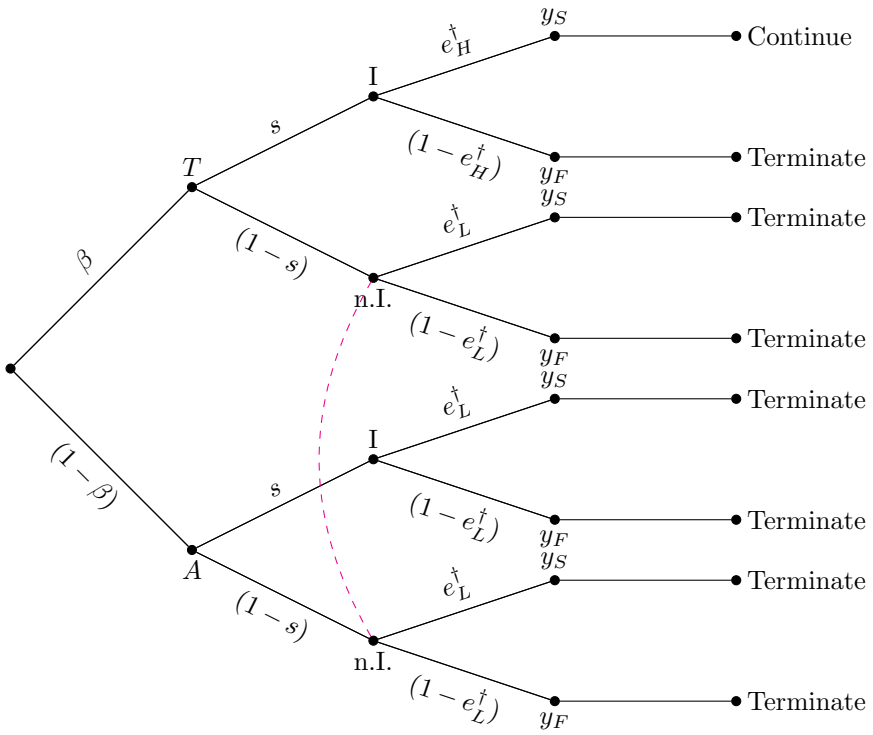

Figure 3: Game Tree with screening with disclosure and without manipulation

The first term above captures the benefit of promotion as long as she succeeds in the entry-level task. The second term represents the guaranteed outside option whenever she fails. The third term is the cost of effort. The high-type employee maximizes the above payoff with respect to effort yielding the following equilibrium effort level:

$$e_H^\dagger = \frac{B-\theta}{c} \tag{7}$$

The high type's equilibrium effort level is increasing in the attractiveness of promotion and decreasing in the cost of effort. Due to disclosure, it is independent of the probability of being the high type or the screening test yielding information. By assumption 1 and 3, $e_H^\dagger \in (0,1)$.

If the employee is disclosed to be the low type, she obtains the following payoff:

$$\theta - \frac{ce^2}{2} \tag{8}$$

Since the firm never promotes the low type employee, the first term above captures the guaranteed

outside option independent of the effort level. The second term captures the cost of effort. Maximizing the above payoff with respect to effort is equivalent to minimizing the cost of effort. The low-type employee's equilibrium effort level is:

$$e_L^\dagger = 0 \tag{9}$$

Under disclosure the firm's payoff is

$$U_F^{S,D} := \beta s e_H^\dagger (X_1 + Y) \tag{10}$$

The firm derives its payoff from the high type who is screened as such and has succeeded in the entry-level task.

3.2.3 Comparison of Efforts

Lemma 1. *Without manipulation:*

1. *the high type chooses higher effort under disclosure relative to no disclosure.*
2. *the low type chooses lower effort under disclosure relative to no disclosure.*
3. *the high and the low types choose the same effort level under nondisclosure.*

$$e_H^\dagger > e^* > e_L^\dagger = 0$$

The proof can be observed from the expressions for $e_H^\dagger$ and $e_L^\dagger$ given that $0 < s\beta < 1$ and $(B - \theta), c > 0$. The intuition for Lemma 1 is straightforward and is similar to the Pygmalion effect described in Eden (1990). When the assessment is not disclosed, the uncertainty of the promotion weakens effort incentives for the high type while it strengthens effort incentives for the low type. When the assessment is disclosed, the high type anticipates a promotion as long as she succeeds in the entry-level task. Put another way, the high type's effort decision no longer hinges on the uncertainty about her type. This decrease in uncertainty increases the expected benefit of exerting effort, which is why $e_H^\dagger > e^*$. However, when the assessment is disclosed to the low type, she rationally exerts no effort. This is because the firm would never promote a low type since she is

never successful in the managerial role. Thus, for the low type, a decrease in uncertainty reduces the expected benefit of exerting effort, which is why $e^* > e_L^\dagger$.

Lemma 1 replicates some of the results found in prior literature and managerial advice. For instance, we show that telling a low-potential employee leads to decreased effort. This is similar to Beer (1987) and the reasons conjectured in Effron and Ort (2010) for why some firms withhold employee assessments. Another conjecture for why firms might not disclose assessments suggests that telling a high-potential employee leads to better outside options, which leads to lower effort. This can be demonstrated as follows. Assume that θ is a function of telling, and that $\theta(T) > \theta(NI)$ (in words, θ of being disclosed as having high potential is greater than θ of no information). Then, the comparison of e_H and e^* is not obvious.

$$e_H^\dagger \lesseqgtr e^* \iff B \lesseqgtr \frac{\theta(T) - \beta s \theta(NI)}{(1 - \beta s)} \tag{11}$$

We can see that if the benefit of promotion B is sufficiently small, then telling an employee could lead to lower effort (unlike the results of Lemma 1 where disclosure *always* leads to a greater effort from the high type). However, we believe that this conjecture is not worth pursuing because it is difficult for the employee to credibly convey to the outside market that her employer thinks she has high potential.[10] Moreover, a related line of reasoning has been explored in Waldman (1984), where the employee's promotion is used to convey the employer's positive perception credibly.

3.2.4 Optimal Disclosure Choice

We first tackle the question of whether conducting a screening test is optimal. For the employer to screen, it must be that $U_F^{S,nR} > U_F^{nS} = 0$, or $U_F^{S,R} > U_F^{nS} = 0$, or both. It can be observed from Equations (5) and (10) that both $U_F^{S,nR}, U_F^{S,R} > 0$. Thus, screening is always optimal for the firm.

The firm's decision to tell or not is more nuanced than its decision to conduct a screening test. The firm considers the following trade-off. The high (low) type exerts more (less) effort with

[10] This is true even though the screening test result is verifiable – the screening test result is not observable to recruiters on the external job market. Even if the result is observable to the external market, a high-potential employee at Firm 'J' might not be considered high-potential at Firm 'M.'

disclosure than with nondisclosure. More formally, the firm chooses to disclose the information if:

$$U_F^{S,D} > U_F^{S,nD} \iff \beta s Y(e_H^\dagger - e^*) > X_1 \underbrace{(e^* - \beta s e_H^\dagger)}_{=0} \tag{12}$$

We examine the inequality on the right. The right-hand side of this inequality considers the effect of disclosing the test results on the entry-level output. While disclosure leads to a greater effort from the high type, the firm only obtains the greater effort when the screening test is informative, and the employee has indeed high-potential. On the other hand, under nondisclosure, a lesser effort is always obtained from both types. These two opposing effects exactly counter each other, and the firm experiences no difference in its entry-level task output under telling or not. Thus, the inequality can be rewritten as:

$$\beta s Y(e_H^\dagger - e^*) > 0. \tag{13}$$

which, following Lemma 1, is always true. The firm's decision to tell or not solely depends on the output of the managerial role. Since disclosure increases the effort for the high type over the effort exerted by both the types under nondisclosure, the firm increases its expected output by telling.

Proposition 1. *Without manipulation:*

1. *screening is always optimal for the firm.*

2. *disclosure of the assessment is always optimal for the firm.*

$$U_F^{S,D} > U_F^{S,nD} > U_F^{nS} = 0$$

In this section, we have accomplished two goals. First, we show that the assumption in popular managerial advice that nondisclosure arises because employers are afraid of demotivating some employees (the low types) is indeed plausible (see Lemma 1). Second, we show that popular advice to disclose assessments is correct *provided* that the assumption that nondisclosure arises due to employers' fear of demotivating the low-potential employees is valid. In Equation (13), we formalize the intuition for disclosure provided in popular managerial advice – even though the low-potential employee might reduce her effort, the increased effort from the high-potential employee

makes disclosing the assessment a better option. In the next section, we show that nondisclosure of assessments arises, instead, due to the employee's ability to manipulate the accounting report and strength of the accounting system.

4 Manipulation: Disclosure and Effort

In this section, we allow the employee to manipulate the accounting report at the end of the entry-level task. As above, we solve this section using backward induction.

4.1 No Screening

When the firm does not screen, the results with manipulation are identical to the results without manipulation. Due to assumption 2, the firm never promotes an employee without information about the employee's type. Hence, the equilibrium manipulation and effort levels are 0, and the firm's utility:

$$U_{F,m}^{nS} := 0 \tag{14}$$

4.2 Screening

4.2.1 Screening Test: No Disclosure

Figure 4 shows the game tree when the firm conducts the screening test but does not disclose the assessment. The employee obtains the following payoff from manipulation given that the true accounting signal is y_f:

$$ms\beta B + (1 - ms\beta)\theta - \frac{km^2}{2} \tag{15}$$

The first term captures the benefit of the promotion given that the employee has high potential, is identified as such, and successfully manipulates the accounting report. The second term captures the guaranteed outside option if the employee has low potential, or the test reveals no information, or if she cannot manipulate the accounting report. The third term captures the cost of manipulation. The employee maximizes the above payoff with respect to the manipulation level yielding the

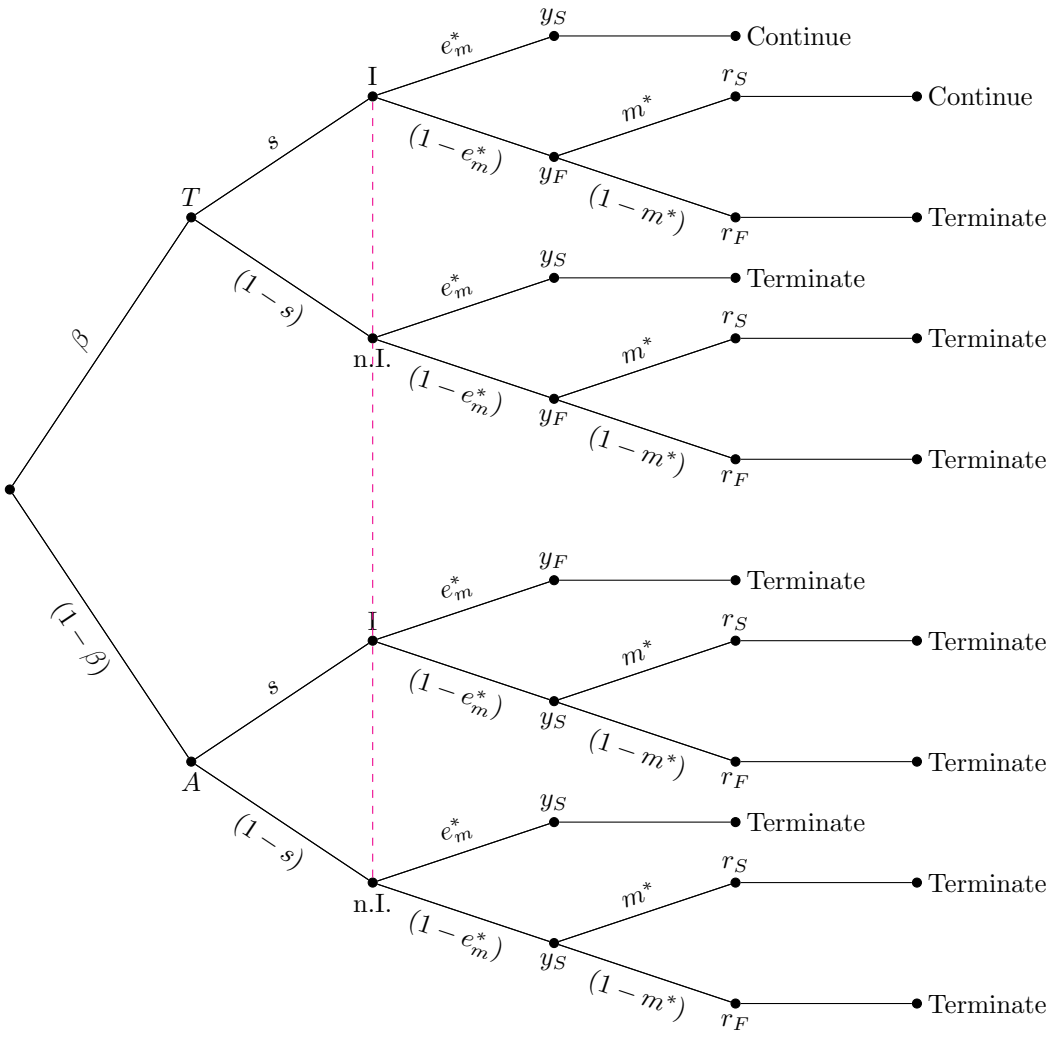

Figure 4: Game tree with screening without disclosure and manipulation

following equilibrium manipulation level.

$$m_H^* = m_L^* = m^* = \frac{s\beta(B-\theta)}{k} \tag{16}$$

We observe that the manipulation effort is increasing in the prior of being a high type, the probability of the screening test yielding information, and the attractiveness of the promotion. It is decreasing in the costliness of manipulation. By assumption 3, $m^* \in (0,1)$.

Given the equilibrium manipulation level, the employee obtains the following total payoff.

$$s\beta(B-\theta)[e(1-m^*)+m^*] + \theta - \frac{ce^2}{2} \tag{17}$$

The first term captures the benefit of promotion over the outside option derived when the employee has high potential, is recognized as such, and succeeds in the entry-level task or manipulates the accounting report. The second term represents the guaranteed outside option for all other conditions. Finally, the third term is the cost of exerting effort. The employee maximizes the above payoff with respect to her effort yielding the following equilibrium effort level.

$$e^*_{H,m} = e^*_{L,m} = e^*_m = \frac{s\beta(B-\theta)(1-m^*)}{c} \tag{18}$$

We note that the equilibrium effort level is increasing in the prior of being the high type, the probability of the screening test being informative, and the attractiveness of the promotion. However, it is decreasing in the equilibrium manipulation level and the cost of effort. By assumption 3, $e^*_m \in (0,1)$.

Finally, we look at the firm's payoff. This is of the form:

$$U^{S,nD}_{F,m} := e^*_m X_1 + s\beta[e^*_m Y - (1-e^*_m)m^* K] \tag{19}$$

The first term captures the expected entry-level task's output when the employee succeeds. The $s\beta$ in the second term captures the probability that the test is informative, and the employee is high-potential. Within the parentheses, the first term captures the expected benefit from a high-type employee performing the managerial role when she succeeds in the entry-level task. The second term within the parentheses captures the wasteful investment of resources due to promoting a high-type employee who manipulates the accounting report.

4.2.2 Screening Test: Disclosure

We now assume that the firm conducts the screening test and discloses the result of the test. Figure 5 represents the game tree for this setting. The high-potential employee obtains the following payoff from manipulation, given that the true accounting signal is y_f.

$$mB + (1-m)\theta - \frac{km^2}{2} \tag{20}$$

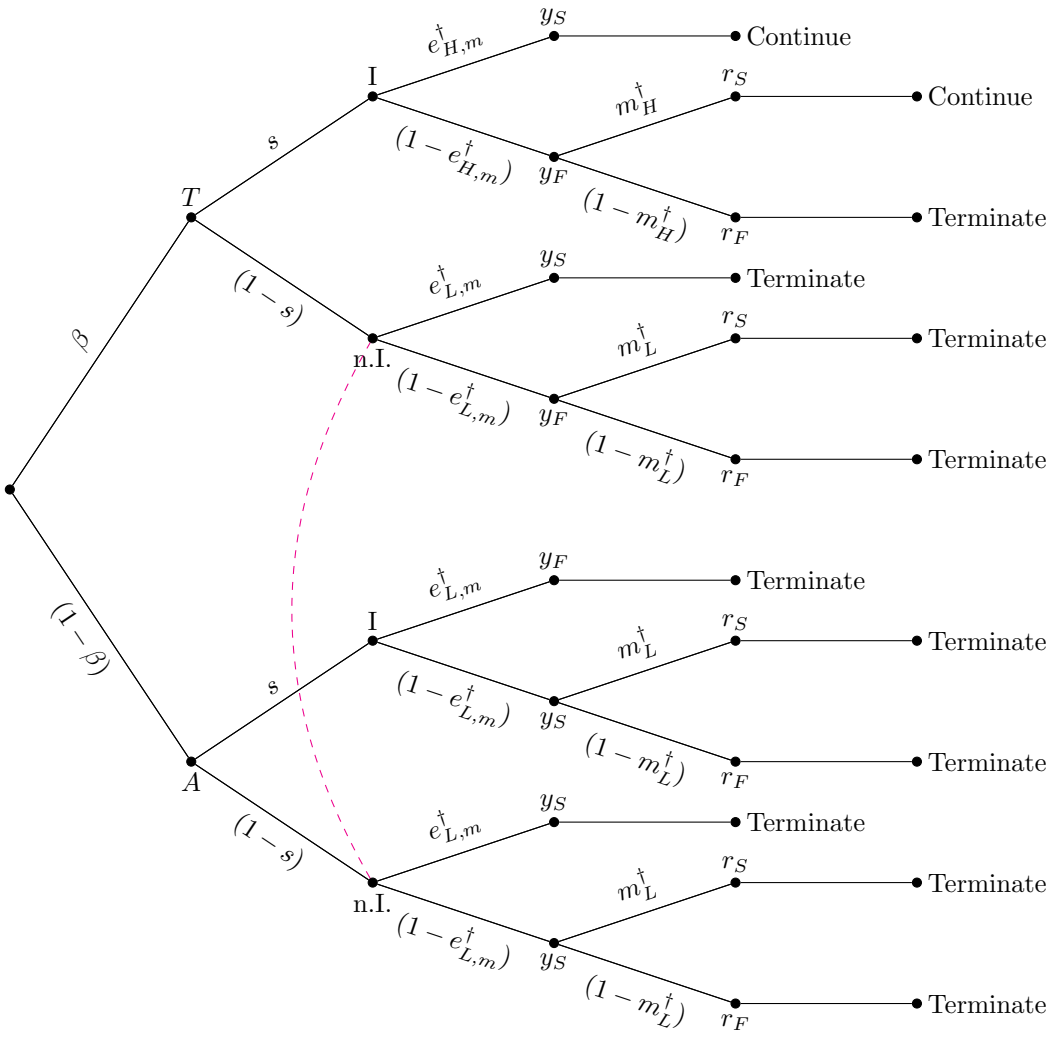

Figure 5: Game tree with disclosure and manipulation

The first term above captures the promotion benefit obtained through manipulation, while the second captures the guaranteed outside option whenever manipulation fails. The third term represents the cost of manipulation. The employee maximizes the above payoff with respect to the manipulation level m, which yields the following equilibrium manipulation level.

$$m^\dagger_H = \frac{B-\theta}{k} \tag{21}$$

Assumption 3 guarantees that $m^\dagger_H \in (0,1)$.

Given the high type's equilibrium manipulation level, she obtains the following total payoff:

$$eB + (1-e)[m_H^\dagger B + (1-m_H^\dagger)\theta] - \frac{ce^2}{2} \tag{22}$$

The first term above captures the promotion benefit given that the high type succeeds in the entry-level task. The second term represents the payoff when she fails (with probability $1-e$). The first term inside the parentheses is the promotion payoff obtained through manipulation, while the second term represents the guaranteed outside option when manipulation fails. The third term represents the cost of effort. The employee maximizes the above payoff with respect to effort yielding the following equilibrium effort level.

$$e_{H,m}^\dagger = \frac{(1-m_H^\dagger)(B-\theta)}{c} \tag{23}$$

$e_{H,m}^\dagger \in (0,1)$ because of assumption 3.

The employee who is disclosed to have low potential expects not to be promoted and thus, chooses $e_{L,m}^\dagger = 0$ and $m_L^\dagger = 0$. The firm's payoff is of the form below:

$$U_{F,m}^{S,D} := \beta s[e_{H,m}^\dagger(X_1+Y) - (1-e_{H,m}^\dagger)m_H^\dagger K] \tag{24}$$

The firm obtains a payoff only when the high type is recognized as such (with probability βs). The first term inside the parentheses represents the output of both stages when the high-potential employee succeeds in the entry-level task. The second term inside the parentheses represents the wasteful investment of resources when the high-potential employee fails the entry-level task and subsequently manipulates the accounting report.

4.2.3 Comparison of Manipulation and Efforts

Lemma 2. *With manipulation:*

1. *the high type chooses a higher manipulation level under disclosure relative to no disclosure.*

2. *the low type chooses a lower manipulation level under disclosure relative to no disclosure.*

3. the high and the low types choose the same manipulation level under nondisclosure.

$$m_H^\dagger > m^* > m_L^\dagger = 0$$

The proof of this result is straightforward and can be observed from the expressions for $m_H^\dagger$ and m^*. Intuitively, when the employee's type is not disclosed, she is uncertain about her type and the firm's information. When the employee is disclosed to be the high type, this uncertainty vanishes, and the expected benefit of manipulation is higher, which is why $m_H^\dagger > m^*$. On the other hand, when an employee is disclosed to be the low type, she rationally expects to be not promoted and hence, does not manipulate the output. The uncertainty is key to inducing manipulation from the low type since she believes there is a chance she might be recognized as the high type and be promoted. This explains why $m_L^\dagger < m^*$.

Lemma 3. *The effort exerted by both types with manipulation, screening, and nondisclosure is less than the effort with no manipulation, screening, and nondisclosure.*

$$e^* > e_m^*$$

The effort exerted by the high type with manipulation, screening, and disclosure is less than the effort with no manipulation, screening, and disclosure.

$$e_H^\dagger > e_{H,m}^\dagger$$

The above result can be verified by looking at the expressions for the various equilibrium effort levels and noting that the equilibrium manipulation levels are between 0 and 1. Intuitively, the above lemma states that effort levels under manipulation are lower than analogous effort levels without manipulation because the employee substitutes effort with manipulation.

Lemma 4. *Under manipulation,* $e_m^* > e_{H,m}^\dagger$ *if* $k < \hat{k} = (B - \theta)(1 + s\beta)$.

The proof of the above lemma is in the appendix. This lemma states that with manipulation, the effort exerted by the high type under nondisclosure exceeds the effort exerted under disclosure if the cost of manipulation is sufficiently small. This is because if the cost of manipulation is

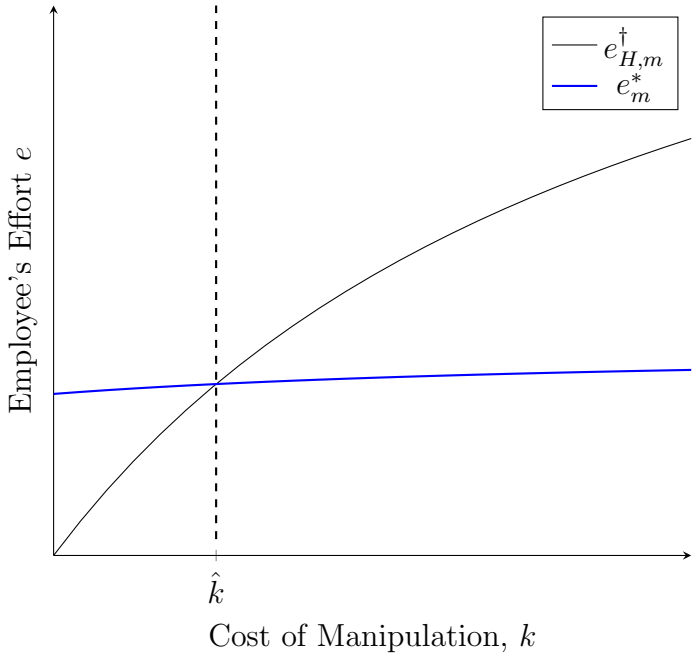

Figure 6: Employee's Effort with and without disclosure dependent on k. Parameter constellation: $X_1 = 1, K = 0.5, Y = 1, s = 0.8, \beta = 0.3, c = 1 < \hat{c}, B = 1, \theta = 0.5$.

low enough–the accounting system is weak– the substitution of effort for manipulation intensifies, especially for the employee disclosed to have high potential. Lemma 4 is pictorially depicted in Figure 6.

4.2.4 Optimal Disclosure Choice

If the employee can manipulate the accounting report, is disclosing the assessment better for the firm? The firm compares the utility of disclosing to the utility of not disclosing, and considers the following effects:

$$\begin{aligned} U^{S,D}_{F,m} &= \beta s[e^{\dagger}_{H,m}(X_1 + Y) - (1 - e^{\dagger}_{H,m})m^{\dagger}_{H}K] > U^{S,nD}_{F,m} = e^{*}_{m}X_1 + s\beta[e^{*}_{m}Y - (1 - e^{*}_{m})m^{*}K] \\ \Longrightarrow \quad & \underbrace{X_1(s\beta e^{\dagger}_{H,m} - e^{*}_{m})}_{\text{Entry-Level Output Effect}} + \overbrace{s\beta Y(e^{\dagger}_{H,m} - e^{*}_{m})}^{\text{Managerial Output Effect}} + \underbrace{s\beta K[(1 - e^{*}_{m})m^{*} - (1 - e^{\dagger}_{H,m})m^{\dagger}_{H}]}_{\text{Resource Allocation Effect}} > 0 \end{aligned} \tag{25}$$

The entry-level output effect considers the incremental effect of disclosure on the entry-level task's output, X_1. This effect is *always negative* since $s\beta e^{\dagger}_{H,m} < e^{*}_{m}$. Intuitively, since the employee disclosed to have high potential manipulates more, her expected effort under disclosure is lesser

than her effort under nondisclosure. The managerial output effect considers the incremental effect of disclosure on the managerial role's output, Y. Similarly, the resource-allocation effect considers the additional effect of disclosure on the cost of resources, K. These last two effects can be both positive or negative, depending on whether $e^{\dagger}_{H,m} \lesseqgtr e^{*}_{m}$ (and by how much).

Proposition 2. *If $k < \hat{k}$, the managerial output and the resource allocation effects are negative.*[11] *The firm strictly prefers to not disclose the assessment.*

$$k < \hat{k} \implies U^{S,nD}_{F,m} > U^{S,D}_{F,m}$$

The proof is in the appendix. The intuition for the above result is that if the cost of manipulation is sufficiently low, the employee disclosed to have high potential manipulates more and exerts lower effort as compared to the employee who does not know the assessment (following Lemmas 2 and 4). Thus, disclosure leads to a decrease in the managerial role's output and a greater cost of inefficient resource allocation for the firm.

The above proposition explains why firms might choose not to tell employees. If the accounting system is sufficiently weak, disclosing positive assessments to employees leads to greater manipulation and lower effort, which hurts the firm's profit in three ways: by reducing the output of the entry-level and the managerial role, and increasing the wasteful allocation of resources. In such a setting with a weak accounting system, the firm is better off not disclosing employee assessments.

We now consider if screening is optimal in the setting with manipulation and nondisclosure. This is tantamount to checking if $U^{S,nD}_{F,m} > U^{nS}_{F,m} = 0$.

$$\begin{aligned} & U^{S,nD}_{F,m} = e^{*}_{m} X_1 + s\beta[e^{*}_{m} Y - (1 - e^{*}_{m}) m^{*} K] > 0 \\ \implies c < \hat{c} = & \frac{[k - s\beta(B - \theta)][kX_1 + s\beta\{kY + Ks\beta(B - \theta)\}]}{s\beta k K} \end{aligned} \tag{26}$$

Lemma 5. *In the setting with accounting manipulation and assessment nondisclosure, it is optimal*

[11] It is worth noting that $k < \hat{k}$ is a sufficient condition for the firm to not tell. The necessary and sufficient condition is outlined in Equation (25). We define this necessary and sufficient threshold cost of manipulation to be $\tilde{k}$.

for the firm to screen iff $c < \hat{c}$.[12]

$$c < \hat{c} \iff U_{F,m}^{S,nD} > U_{F,m}^{nS} = 0$$

The intuition for the above result is as follows. If the cost of effort c is bounded above (that is, if exerting effort is cheap enough), the employee exerts enough effort even with manipulation such that the total output exceeds 0. However, if the cost of effort gets sufficiently high, it is no longer optimal for the firm to conduct the screening test. This is because the employee reduces her effort, which leads to a higher expected manipulation level and an increased cost to the firm of inefficient resource allocation (since the 'wrong' employee is promoted). In this case, we have a trivial reason why firms might not tell their employees– the firms are merely uninformed themselves.

The results of Proposition 2 and Lemma 5 are summarized in Figures 7 and 8. Figure 7 shows the three effects– entry-level output, managerial output and resource allocation– outlined in Equation (25). All three effects are negative if the cost of manipulation is sufficiently low (that is, if $k < \hat{k}$). Consequently, nondisclosure is always optimal for the firm. Figure 8 aggregates the three effects into a single utility value. It shows that $k < \hat{k}$ is only a sufficient condition for nondisclosure, and nondisclosure is, in fact, optimal up to a higher threshold, $\tilde{k}$, obtained from Equation (25). As can be seen, for $k > \tilde{k}$, disclosure is optimal for the firm *despite* the employee's ability to manipulate the accounting report. Finally, for this numerical example, screening is always optimal (that is, $U_{F,m}^{S,D} > 0 = U_{F,m}^{nS}$).

5 Comparative Statics

This section discusses how the optimal values derived above vary with our model's exogenous parameters. Our primary focus is on changes with respect to the attractiveness of the promotion, $B - \theta$. In the following discussion, when we refer to effort or manipulation under disclosure, we mean the effort or manipulation levels of the employee disclosed to be the high type. The low type's effort and manipulation level is 0 in equilibrium and is, thus, invariant to changes in the exogenous

[12] In the appendix, we numerically show that there exists a $\hat{c}$ that is *not* precluded by our definition of $\hat{k}$ and Assumptions 1, 2, and 3.

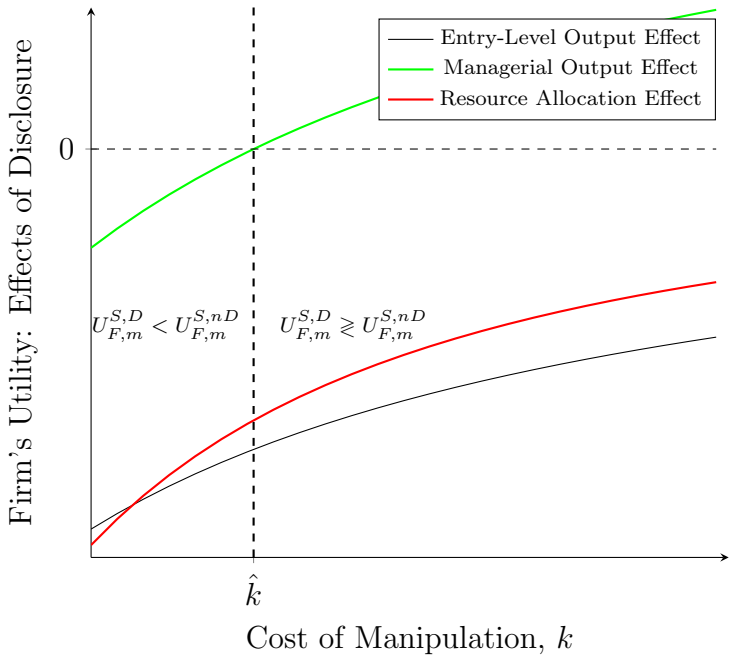

Figure 7: Entry-Level Output Effect, Managerial Output Effect and Resource Allocation Effect dependent on k. Parameter constellation: $X_1 = 1, K = 0.5, Y = 1, s = 0.8, \beta = 0.3, c = 1, B = 1, \theta = 0.5$.

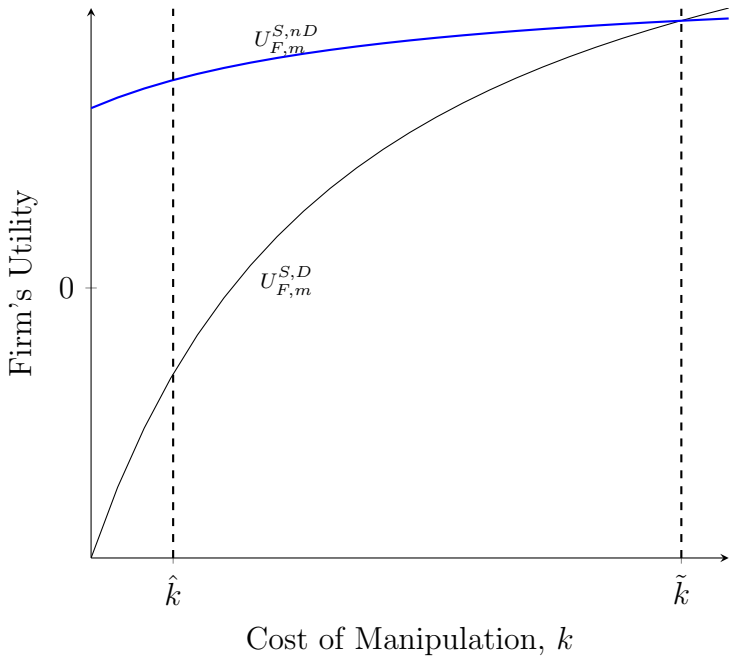

Figure 8: Firm's utility with screening with and without disclosure dependent on k. Parameter constellation: $X_1 = 1, K = 0.5, Y = 1, s = 0.8, \beta = 0.3, c = 1 < \hat{c}, B = 1, \theta = 0.5$.

parameters.

5.1 No Manipulation

Without manipulation, the employee's effort is increasing in the attractiveness of the promotion independent of disclosure. Given a higher benefit B or a lower outside option θ, the employee has higher incentives to work. This can be seen as follows.

$$\frac{\partial e^*}{\partial(B-\theta)} = \frac{\beta s}{c} < \frac{\partial e_H^\dagger}{\partial(B-\theta)} = \frac{1}{c} \tag{27}$$

The left-hand side is the increase in the equilibrium effort under nondisclosure, while the right-hand side is the increase in the equilibrium effort under disclosure. An increase in the attractiveness of promotion leads to a greater increase in the equilibrium effort under disclosure. This is because the increase in effort under nondisclosure is ameliorated by the chance that the employee is the low type or is not identified as the high type.

Similarly, the firm's expected utility is also increasing in the attractiveness of the promotion, independent of the firm's choice of disclosure. However, the increase in expected utility under disclosure is greater than the increase in expected utility under nondisclosure. This is due to the greater increase in effort under disclosure (from above).

$$\frac{\partial U_F^{S,nD}}{\partial(B-\theta)} = \frac{\beta s}{c} X_1 + \frac{(\beta s)^2}{c} Y < \frac{\partial U_F^{S,D}}{\partial(B-\theta)} = \frac{\beta s}{c}\left(X_1 + Y\right) \tag{28}$$

5.2 Manipulation

5.2.1 No disclosure

Without disclosure, an increase in the attractiveness of promotion leads to an increase in the employee's equilibrium manipulation. This can be seen below.

$$\frac{\partial m^*}{\partial(B-\theta)} = \frac{\beta s}{k} > 0 \tag{29}$$

Taking the first derivative of the employee's effort, we obtain:

$$\frac{\partial e_m^*}{\partial(B-\theta)} = \underbrace{\frac{\beta s}{c}}_{\text{Direct Effect ND}} - \overbrace{\frac{2(\beta s)^2(B-\theta)}{ck}}^{\text{Indirect Effect ND}} \tag{30}$$

The first term on the right-hand side represents the direct effect of an increase in the attractiveness of promotion on effort. The direct effect is positive, which reflects stronger incentives to work. The second term represents the indirect effect – increasing the attractiveness of promotion also increases incentives to manipulate, which decreases effort. Whether the indirect effect outweighs the direct effect depends on the accounting system's strength or the cost of manipulation, k. Proposition 3 below formalizes this result.

5.2.2 Disclosure

With disclosure, an increase in the attractiveness of promotion leads to an increase in the employee's manipulation. This is demonstrated below.

$$\frac{\partial m_H^\dagger}{\partial(B-\theta)} = \frac{1}{k} > 0 \tag{31}$$

Taking the first derivative of the employee's effort, we obtain

$$\frac{\partial e_{H,m}^\dagger}{\partial(B-\theta)} = \underbrace{\frac{1}{c}}_{\text{Direct Effect D}} - \overbrace{\frac{2(B-\theta)}{ck}}^{\text{Indirect Effect D}} \tag{32}$$

As above, the first term represents the positive direct effect of the increasing attractiveness of promotion on effort. The second term reflects the negative indirect effect of increased manipulation on effort. Again, whether the direct or indirect effect dominates depends on the costs of manipulation, k. The following proposition formalizes this result.

Proposition 3. *This proposition has three parts:*

1. e_m^* *is increasing in* $B-\theta$ *iff* $k > 2\beta s(B-\theta)$.

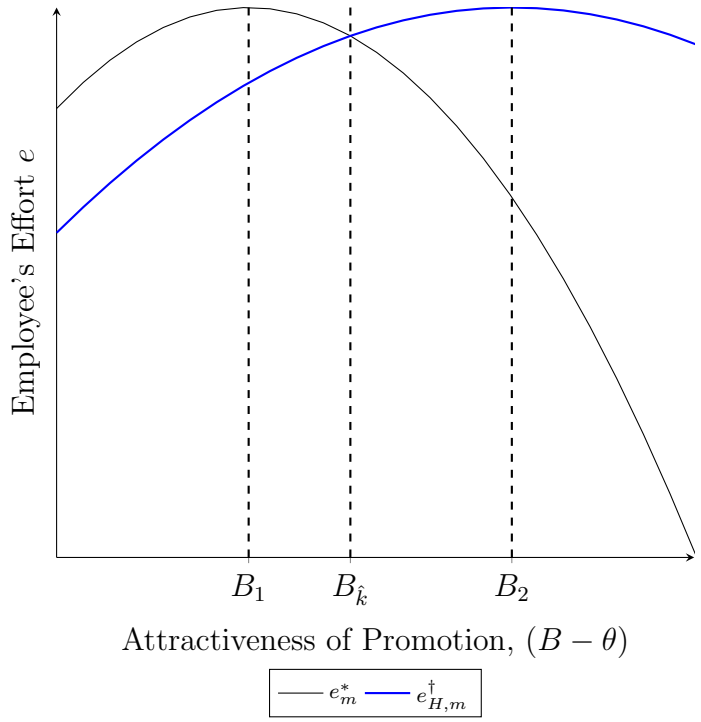

Figure 9: Employee's Effort dependent on $(B-\theta)$. Parameter constellation: $X_1 = 1, K = 2.5, Y = 1, s = 0.9, \beta = 0.7, c = 1 < \hat{c}, k = 3.5$. For $(B-\theta) < B_1$: $k > 2s\beta(B-\theta)$; for $(B-\theta) < B_2$: $k > 2(B-\theta)$; and for $B-\theta = B_k$: $k = \hat{k}$.

2. *$e^\dagger_{H,m}$ is increasing in $B-\theta$ iff $k > 2(B-\theta)$.*

3. *For $k = \hat{k}$, e^*_m is increasing and $e^\dagger_{H,m}$ is decreasing in $B-\theta$.*

The proof is in the appendix. Figure 9 pictorially depicts Proposition 3. We finally turn our attention to how the threshold $\hat{k}$ varies.

Proposition 4. *The threshold $\hat{k}$ is increasing in the attractiveness of the promotion, $B-\theta$ and the joint probability of being recognized as the high type, βs.*

The proof is in the appendix. The intuition is as follows. As the attractiveness of the promotion or the joint probability of being recognized as the high type increases, the employee's incentive to succeed in the entry-level task increases (either through increased effort or manipulation). The firm withholds assessments up to a *greater* threshold, $\hat{k}$, to compensate for the employee's increased incentive to succeed in the entry-level task.

6 Discussion of Results

Our main results suggest that firms that disclose assessments might risk incurring manipulation costs if the internal accounting system is sufficiently weak. We leave a test of the merit of this theory to future research. Specifically, our model predicts that disclosure of assessments is more likely in firms with strong internal accounting systems than firms with weak internal accounting systems. We believe this prediction can be tested well using an experimental approach instead of an empirical test since naturally occurring data might be hard to obtain for our constructs. While we do not provide a formal test, it is not hard to see that our theory's underlying intuition can be seen in several everyday situations. Below, we discuss one such high-profile 'application.'

In 2009, Vogell and Perry (2009) showed that the gains made by students in 44 of 56 schools in the Atlanta Public School (APS) system on the state-administered standardized exams were statistically unlikely to happen. An extensive investigation revealed that several educators had erased and corrected students' answers on standardized tests (Koebler 2011). One such school embroiled in the scandal was Parks Middle. Parks Middle School, one of the lowest-performing schools in the system, made impressive gains in performance over four years from 2005 to 2009. The principal, Christopher Waller, who later admitted to orchestrating rampant cheating, was made the poster boy of the improvements in the APS system by the APS superintendent, Beverly Hall (Rankin 2014). This anecdote highlights the fundamental insight in our model.

Hall's public celebration of Waller is akin to an employer disclosing a positive assessment to an employee. Waller's media accolades created a strong incentive for him to maintain his reputation as a stellar educator. The incentive to retain reputational gains is similar to enjoying a promotion benefit in our model. Unfortunately, the APS system suffered from weak internal controls (or an internal accounting system) – it was described as "...a climate that allows cheating to occur without consequences" (Flock 2011). Thus, Waller fulfilled his incentive to maintain his reputation by engaging in rampant cheating (i.e., by manipulating the internal accounting system) instead of *actually* improving student achievement.

7 Conclusion

In this paper, we explain why some employers do not disclose assessments to employees. Popular managerial guidance books and consulting firms argue that disclosing assessments leads to increased engagement and effort from high-potential employees, which boosts profits. In our setting without accounting manipulation, we replicate this advice. We show that without accounting manipulation, disclosing the assessment leads to higher profits since the high-potential employee works harder. However, our novel insight shows that when the accounting system is sufficiently weak, and the employee can manipulate the accounting system, disclosing the assessment can decrease expected profits. This is because disclosure of the assessment creates a perverse incentive for the high-potential employee to succeed either through effort or through accounting manipulation. If the accounting system is weak, the high-potential employee chooses to succeed through accounting manipulation, which leads to decreased expected output and wasteful resource allocation for the employer. The decreased outputs and inefficient resource allocation reduce the employer's profit. Thus, the employer chooses not to disclose the assessment. Our model provides some testable implications regarding the relationship between an employer's disclosure of assessments and the strength of the employer's internal accounting system. Specifically, our model predicts that an employer with a weaker (stronger) internal accounting system is less (more) likely to disclose employee assessments. We encourage future research to test our theory.

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Appendix

Proof of Lemma 4

We solve the inequality:

$$\begin{aligned} e_m^* = \frac{s\beta(B-\theta)(1-m^*)}{c} &> e_{H,m}^\dagger = \frac{(1-m_H^\dagger)(B-\theta)}{c} \\ \implies s\beta\left[1-\frac{s\beta(B-\theta)}{k}\right] &> \left(1-\frac{B-\theta}{k}\right) \\ \implies k &< (B-\theta)(1+s\beta) \end{aligned}$$

This proves the requisite upper bound on k. ■

Proof of Proposition 2

Following Lemma 4, if $k < \hat{k} = (B-\theta)(1+s\beta)$, $e_m^* > e_{H,m}^\dagger$. Then, the managerial output effect is negative. Following Lemma 2, $m_H^\dagger > m^*$. Then, if $k < \hat{k} = (B-\theta)(1+s\beta)$, the resource allocation effect is negative. ■

Lemma 5: Existence of $\hat{c}$

Let $k \approx (B-\theta)(1+s\beta)$ (this satisfies Proposition 2). We solve for $\hat{c}$ that satisfies Assumption 3. Then, $\hat{c} > (B-\theta)$ simplifies to

$$kX_1 + s\beta[kY + Ks\beta(B-\theta)] > s\beta kK$$

To show the existence of $\hat{c}$, it suffices to provide a set of parameters that satisfy the above inequality (Assumption 3 and Proposition 2) along with Assumptions 1 and 2. The parameter values: $k = 2$, $X_1 = 5$, $s = 0.3$, $\beta = 0.6$, $X_2 = 8$, $K = 5$, $B = 3$, and $\theta = 2$ do so. ■

Proof of Proposition 3

We solve the inequalities:

$$\frac{\partial e_m^*}{\partial(B-\theta)} = \frac{\beta s}{c} - \frac{2(\beta s)^2(B-\theta)}{ck} > 0 \implies k > 2\beta s(B-\theta) \tag{33}$$

and:

$$\frac{\partial e_{H,m}^\dagger}{\partial(B-\theta)} = \frac{1}{c} - \frac{2(B-\theta)}{ck} > 0 \implies k > 2(B-\theta) \tag{34}$$

This proves parts (1) and (2). Part (3) is proved below.

$$\hat{k} = (B-\theta)(1+s\beta) < (B-\theta)(1+1) = 2(B-\theta) \tag{35}$$

This proves the upper bound on $\hat{k}$.

$$\begin{aligned} &\hat{k} = (B-\theta)(1+\beta s) > (B-\theta)(2\beta s) \\ \implies &1 > \beta s \end{aligned} \tag{36}$$

which proves the lower bound on $\hat{k}$. The proof is completed by applying parts (1) and (2). ■

Proof of Proposition 4

The proof can be seen from the first derivative:

$$\frac{\partial \hat{k}}{\partial(B-\theta)} = (1+\beta s) > 0 \tag{37}$$

$$\frac{\partial \hat{k}}{\partial \beta s} = (B-\theta) > 0 \tag{38}$$

■

This draft: December 2, 2020