Incentive Design for Talent Discovery

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Motivation

Career advancement within organizations is commonly tied to job performance.

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- **Selection:** performance signals talent
- **Incentives:** employees work hard to earn promotion

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The prospect of promotion distorts these choices.

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The prospect of promotion distorts these choices.

- Employees may spend their time on tasks or projects which optimize their perceived talent rather than their productivity.

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Organization can shape incentives by:

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Organization can shape incentives by:

- Limiting selection based on performance
- Paying performance-contingent bonuses

The model

The setting

An organization oversees a set of:

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An organization oversees a set of:

- Employees

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An organization oversees a set of:

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- Tasks

The setting

An organization oversees a set of:

- Employees
- Tasks
- Promotions

Timeline

Stage 1. Production

Stage 2. Selection

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- Employees choose a task to complete
- Task outcomes are realized

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Stage 2. Selection

- Organization allocates promotions and pays bonuses

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Continuum of employees of mass 1.

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Employees differ in their quality and which task they are best suited to:

- Employee n's quality is $\theta(n) \in \{\bar{\theta}, \underline{\theta}\}$ and drawn iid
- $\theta(n)$ is symmetrically unobserved

Task match

Employee n's task match is $\Gamma(n) \in [0, 1]$.

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- $\Gamma(n)$ summarizes employee fit for assigned goals or project

Employee labeling

Without loss, label employees in descending order of task match:

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Private knowledge of task match is equivalent to **anonymity**:

- Organization doesn't observe employee labels and can't condition outcomes on them

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$$q(\theta, \gamma) = \theta \cdot \gamma$$

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  - Better-matched employees succeed more often

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- $V > 0$ if promoted
  - Unpledgeable, e.g. due to limited liability

Transfers

Organization can pay monetary bonuses to employees.

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Limited liability: employees can't make transfers to the organization.

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Limited liability: employees can't make transfers to the organization.

- If organization could charge for promotion, incentive problem becomes trivial

Related literature

Related literature I

Risk-taking under career concerns

Risk-taking under threat of firing

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- Kuvalekar, Lipnowski (2020); Kostadinov, Kuvalekar (2022); Aghion, Jackson (2016)
- **What we do:** *Link* incentive problems across employees via a resource constraint.

Related literature II

Promotions versus bonuses

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- Baker, Jensen, Murphy (1988); Fairburn, Malcomson (2001); Schottner, Thiele (2010)

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- Baker, Jensen, Murphy (1988); Fairburn, Malcomson (2001); Schottner, Thiele (2010)
- **What we do:** Demonstrate a tradeoff between the two tools when incentivizing many employees in an *organization*.

Optimal incentive schemes

The incentive design problem

Absent commitment to an incentive scheme, employees task choices are generally inefficient for the organization.

So, suppose the organization can use two tools to influence task choices:

1. Promotion policy: probability of being promoted conditional on task choices and outcomes.
2. Bonuses: monetary transfers conditional on task choices and outcomes.

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in order to maximize:

$$\Pi = \text{Task payoffs} + \text{Promotion payoffs} - \text{Bonus payments}$$

Two design decisions

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2. How much risk-taking should occur?

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2. How much risk-taking should occur?
   - Depends on effectiveness of incentive tools
   - Optimal incentive power varies with R and V

Discouraging risk-taking

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  - Example: brand managers of familiar consumer products (e.g., Tropicana)

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Goal: Induce less risk-taking.

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Intuition: Underpromoting good outcomes is a strong incentive when marginal employee is likely to succeed (N is low).

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Intuition: Overpromoting bad outcomes is strong incentive when marginal employee is likely to fail (N is high).

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- Fixing an expected bonus size for the marginal employee:
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Result: Given any expected bonus size to the marginal employee, failure bonuses cost less than success bonuses in aggregate.

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Predictions:

- V: If labor market is not very mobile, firms bonuses are more prevalent, promotions more sensitive to performance.
- R: If promoted role has low responsibility, or there is a low correlation between current role and promotion role, bonuses less prevalent, promotions less sensitive to performanc

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Extension: Split employees into groups with different promotion rates, and apply the optimal (symmetric) incentive scheme in each group.

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- If symmetric-scheme profits are not globally concave in β, profits can be improved by splitting employees into two groups for some values of β

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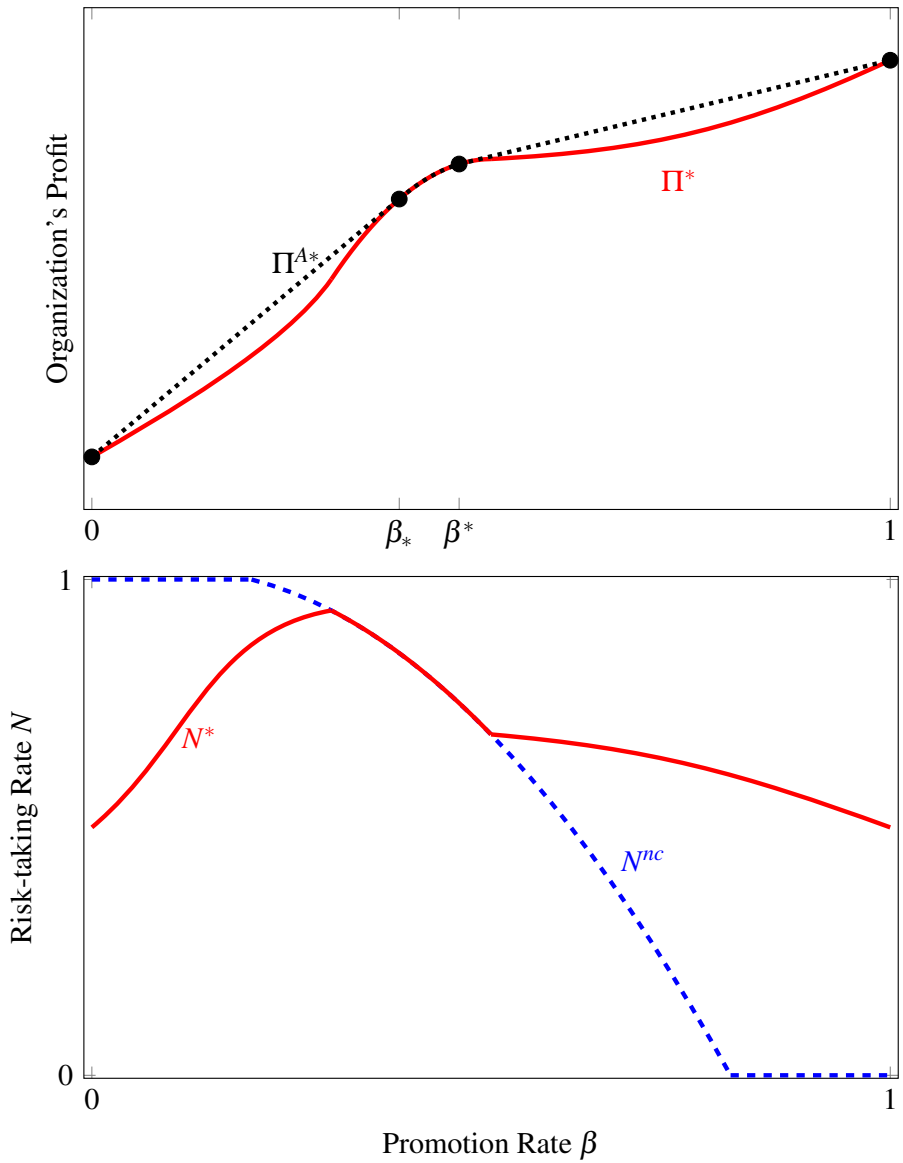
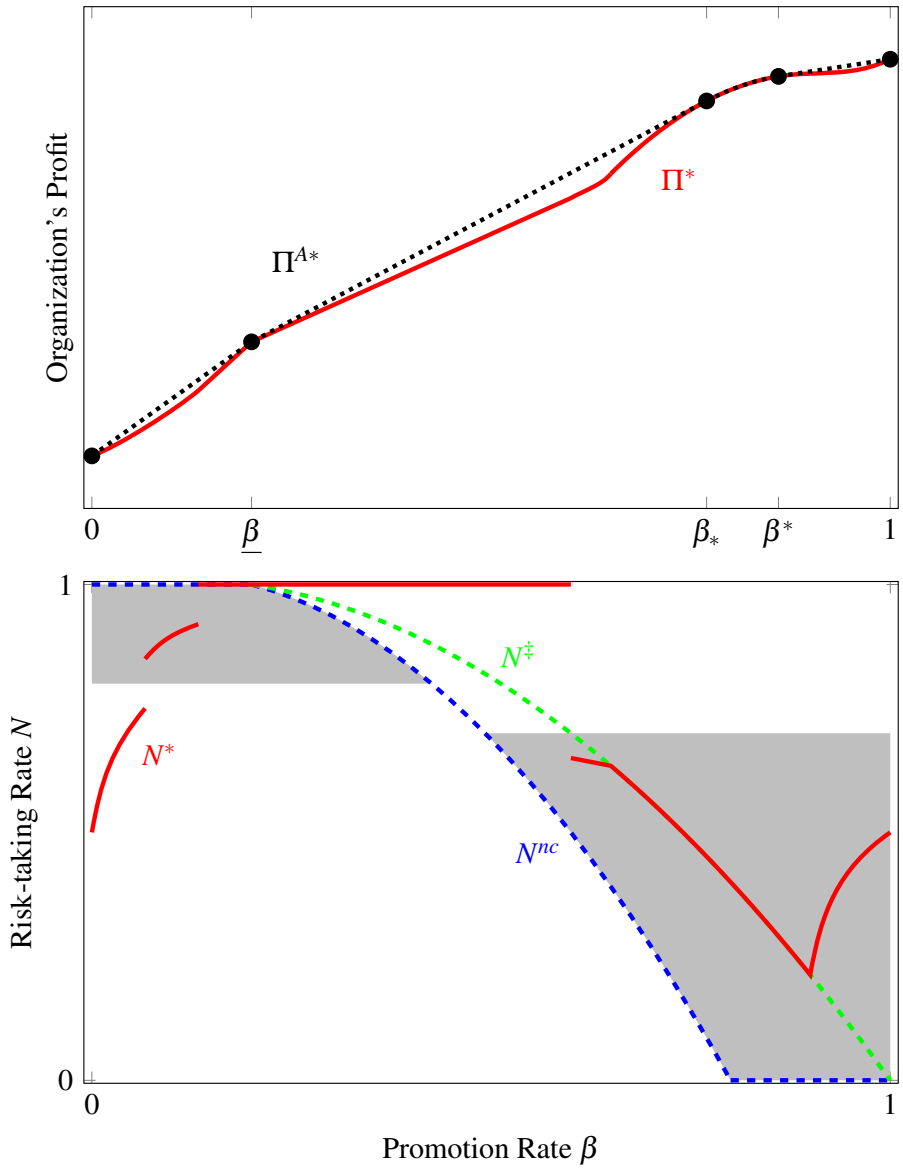
An optimal asymmetric scheme



An optimal asymmetric scheme with bonuses



Conclusion

Concluding thoughts

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Next steps:

- Selection into groups/mechanism design
- Interaction with external labor market