Seeking Alpha: Excess Risk Taking and Competition for Managerial Talent

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Motivation

"*The dirty secret of bank bonuses is that these practices have arisen not merely due to a culture of arrogance; the more pernicious problem is a sense of insecurity.* **Banks operate in a world where their star talent is apt to jump between different groups, whenever a bigger pay-packet appears**, *with scant regard for corporate loyalty or employment contracts. The result is that* **the compensation committees of many banks feel utterly trapped**. – Tett (Financial Times, 2009)

"*Should any investor be prepared to bet on [Mexico's] next 100 years - or that of any country?... Cynics suggest* **no one buys a century bond thinking further away than their next job move since it won't be their problem when it does come due**." – Hughes (Financial Times, 2010)

Introduction

- Question: why did private contracting not deter excessive undertaking of "tail" risks?
- Our answer: employers' competition for "alpha" (talent of managers and traders) coupled with the fact that learning about employees' "alpha" requires time.
- If employment duration at firms is short compared to maturity of projects employees take on, then such learning is not feasible.
- Employee ability to move to peer firms can preclude learning and efficient allocation.
- Why would managers engage in such churning that produces large tail risks? Can private contracts address it?

Basic Idea

- Model of labor market equilibrium with risk-averse managers and competition for scarce managerial talent ("alpha").
- Absent managerial mobility, firms set up compensation that:
    - allows for learning about talent and efficient assignment of managers to tasks; and
    - insures managers against risk of being low quality.
- When managers can move across firms, high-talent managers can fully extract the higher rents by leaving: hence, no co-insurance.
- In anticipation, risk-averse managers may churn across firms preventing their quality to be learnt, getting some insurance **but** delaying efficient assignment.
- Result: pay based on short-term performance and build up of excessive long-term risks.

Outline of the talk

- Related literature.
- Setup of the model.
- Baseline case: two-period model.
  - Competitive labor market: managers mobile across firms; type revealed to all firms.
  - Non-competitive labor makret: no managerial mobility across firms.
- Extensions.
  - Conditional pay, switching costs, asymmetric information.
  - Three-period model.
  - Infinite horizon model.
- Concluding remarks.

Related literature

- We highlight a "dark side" of firms' competition for managerial talent: each employer provides an "escape route" for managers from other companies (externality) $\Longrightarrow$ excess risk taking.
- Others have stressed "bright side": competition leads to efficiency of matching: Rosen (1981), Gabaix and Landier (2008). But these papers neglect effect of competition on risk taking.
- Our idea parallels that of externalities in corporate governance: Acharya and Volpin (2009) and Dicks (2009) show that firms with weaker governance pay their managers more to incentivize them. Competition forces also other firms to pay their managers more, and thus discourages them from improving their governance.
- Contrast with models where excess risk-taking arises from difficulty to control managers' moral hazard: Axelson and Bond (2009), Makarov and Plantin (2010), De Marzo, Livdan and Tchistyi (2010), etc.

Setup

- K profit-maximizing, competitive, risk-neutral firms.
- I risk-averse agents (managers), who live for T periods:

$$V_{it} = \mathbb{E}\left[\sum_{s=0}^{T-1} \rho^s u(w_{i,t+s}) \mid \Omega_t\right]$$

  where $u(w_{i,t+s})$ is the utility of the wage received, ρ is the discount factor and Ω_t is the information available in period t.
- Managers have no initial wealth, limited liability and are impatient.
- Firm can make compensation conditional on projects assigned to the manager and on past information about the manager.
- A fraction $p \in (0,1)$ of managers are high-type (H) and a fraction $1-p$ are low-type (type L), the former are scarce: $p \leq 1/2$.
- Managers initially do not know their type q_i: symmetric information.

Projects

- Two types of projects:
  - safe (S), which generate a low but certain payoff y_S,
  - risky (R), which generate a high payoff $\overline{y}$ if managed by a H type and $\overline{y} - c$ if managed by a L type.
- Assume: $\overline{y} - (1 - p)c > y_S > \overline{y} - c \iff 1 - p < \eta < 1$ where $\eta \equiv (\overline{y} - y_S)/c$.
- Key assumption: the quality of a manager initiating an R project only becomes perfectly known if he stays at the firm until the end of the period, otherwise the outcome is a noisy signal about quality.
- If the manager leaves and noise does not interfere (w.p. β), then the outcome reflects the manager's ability. If it does interfere (w.p. $1 - \beta$), then the outcome *completely* uninformative about the type.
- Noise does not change the ex-ante expected payoff of the project: it generates $\overline{y}$ w.p. p and $\overline{y} - c$ w.p. $1 - p$.

Market for managerial talent

- At date t, firm k offers to manager i compensation $\{w_{ik\tau}\}_{\tau=t}^{\tau=T}$ where $w_{ik\tau}$ is contingent on the project $P_{ik\tau} \in \{R, S\}$ and perceived quality of the manager $\theta_{i,\tau-1}$.
- Firms commit to paying the sequence of wages but not to project assignment: $P_{ik\tau}$ chosen period-by-period to maximize expected profits.
- Manager decides period-by-period whether to stay with firm k or switch to a new firm in the following period, which is a function of perceived quality $\theta_{i,\tau-1}$ so as to maximize expected utility.
- Firms bid competitively for managers, hence the latter extract all of the expected profit. Note that switching costs can prevent competition for managerial talent ex-post.

Time line

- At the start of period t, manager i accepts an offer from firm k (or renegotiates his previous contract with firm k), which assigns him to project $P_{ikt} \in \{R, S\}$.
- Before completion of the project, the manager chooses whether to stay with employer k also in period $t+1$ or leave.
- At the end of period t, project P_{ikt} is completed and produces its payoff. If $P_{ikt} = S$, the payoff is y_S. If $P_{ikt} = R$ and manager i stayed, the payoff perfectly reflects his quality, if he left, the payoff is a noisy signal of his quality.

Evolution of beliefs about managerial quality

- At t, employment history of manager i is summarized by the belief $\theta_{i,t-1}$ that he is a H type, shared by all players.
- At the beginning, the quality of the manager is unknown, hence $\theta_{i0} = p$, but in subsequent periods the belief may be updated based on performance and the decision to stay or leave.
- If assigned to S project, no updating. If assigned to R project and stays, type revealed but if he leaves, belief updated using Bayes' rule.
- The law of motion of manager's reputation is:

$$\theta_t = \begin{cases} \theta_t^U \equiv \theta_{t-1}\frac{1+\delta^+}{1+\theta_{t-1}\delta^+} > \theta_{t-1} & \text{if } y_t = \overline{y}, \\ \theta_{t-1} & y_t = y_S \\ \theta_t^D \equiv \theta_{t-1}\frac{1-\delta^-}{1-\theta_{t-1}\delta^-} < \theta_{t-1} & \text{if } y_t = \overline{y} - c. \end{cases}$$

where $\delta^+ \equiv \frac{\beta}{(1-\beta)p}$ and $\delta^- \equiv \frac{\beta}{1-(1-\beta)p}$.

Two-period model: competitive labor market

- Simple two-period model shows some of the key results of the model.
- Consider in turn two polar cases: *competitive* and *non-competitive labor market*.
- In the former, the managers are free to move between firms at the end of period 1. Solve by backward induction.
- Firm chooses a project for manager i in period 2 to maximize expected profits based on the manager's reputation. There are two cases to consider:
  - if $\eta \geq 1 - \theta_L$, then $P_{i2} = \begin{cases} R & \text{if } \theta \in \{1, \theta_H, \theta_L\}, \\ S & \text{otherwise.} \end{cases}$
  - if $\eta < 1 - \theta_L$, then $P_{i2} = \begin{cases} R & \text{if } \theta \in \{1, \theta_H\}, \\ S & \text{otherwise.} \end{cases}$

Two-period model: competitive labor market

- Firm pays the manager $w_{i2} = \begin{cases} \overline{y} - (1-\theta_{i1})c & \text{if } P_{i2} = R, \\ y_S & \text{if } P_{i2} = S. \end{cases}$
- Manager i switches firm at the end of period 1 if the expected utility from moving is greater than the expected utility from staying:

  $$(1-p)\left[u\left(\overline{y} - (1-\theta_L)c\right) - u(y_S)\right] \geq p\left[u(\overline{y}) - u\left(\overline{y} - (1-\theta_H)c\right)\right]$$

  where $\theta_H \equiv \beta + (1-\beta)p$ and $\theta_L \equiv (1-\beta)p$. By switching, the manger trades a reduction in expected wage for insurance i.e. lower variance in the period 2 wage.
- The expected gain from moving is increasing in the efficiency gain from the risky project η, decreasing in the informativeness of the risky projects payoff β and increasing in the managers risk aversion.

Two-period model: non-competitive labor market

- In the *non-competitive labor market* the managers cannot move between firms at the end of period 1.
- Since they compete for managers, they will offer them full insurance against unknown quality: good managers subsidize bad ones.
- Firms assign managers to a R project in period 1, and then in efficiently to either a R or S period 2, depending on their type, which is revealed. The managers are paid:

$$w_{ik1} = \mathbb{E}_0[\pi(P_{ik1}|p)] = \overline{y} - (1-p)c$$
$$w_{ik2} = \mathbb{E}_0[\pi(P_{ik2}|q_i)] = p\overline{y} - (1-p)y_S$$

- First-best is achieved: complete insurance of risk-averse managers by risk-neutral firms *and* productive efficiency. Contrast this outcome to the *competitive labor market* case, when risk sharing is only partial and project assignment is inefficient.

Extensions of the two-period model

- Allow firms to make pay conditional on the payoff of the project assigned to the manager and their decision to leave the firm.
    - Firms will not choose to offer such compensation packages.
- Allow for switching costs
    - An intermediate case between the *competitive* and *non-competitive labor market* cases examined before.
    - With a switching cost s, manager i moves iff:

$$(1-p)\left[u\left(\overline{y}-(1-\theta_L)c\right)-u(y_S)\right]-s \geq p\left[u(\overline{y})-u\left(\overline{y}-(1-\theta_H)c\right)\right]$$

    - The higher switching cost s, the smaller the parameter region in which managerial mobility is worthwhile.
- Allow for asymmetric information: some managers know their type
    - Mangers are less likely to move as the degree of asymmetric information increases.

Three-period model

- X

Infinite horizon model I

- X

Infinite horizon model II

- X

Conclusion

- X