Banker Compensation and Bank Risk Taking: The Organizational Economics View

Arantxa Jarque & Edward Simpson Prescott

Discussion by

Tanju Yorulmazer
New York Fed

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Summary

- Compensation of bank employees
- The literature usually focuses on a single-agent (CEO)
- This paper focuses on a multi-agent model
- Compensation of bank employees below the CEO level
- Compensation to encourage/discourage risk and correlation in bank returns
Summary

• Organization is more complex that cannot be captured by single-agent models.

• Loan officer originates the loan.

• This is reviewed by a loan reviewer (underwriter).

• How should we design compensation to incentivize different agents?
Loan officers

• A continuum of loan officers.

• Return from the loan depends on an idiosyncratic factor (specific to the loan officer) and an aggregate factor.

• Loan officer has a reservation utility so needs to be compensated accordingly.

• Loan officer is risk-averse.
Bank

• The bank is mostly financed with insured deposits.

• Limited liability + deposit insurance = incentive to shift the risk to the deposit insurance fund.

• Action taken by the loan officer affects the return.

• Higher action $a$ results in higher outcomes but is costly for the loan officer ($V(a)$).
Compensation problem

- Max Bank’s profits

s.t.

- Participation constraint of the loan officer

- Incentive compatibility constraint of the loan officer to implement the desired action
Compensation problem

- Higher actions have higher returns.

- $LR = \text{Likelihood of a return } r \text{ under a lower action compared to a higher action.}$

- Standard moral hazard problem: Compensation decreases as the likelihood ratio increases.

- Social welfare requires high action.

- Bank may prefer low action if it allows the bank to shift the risk to the deposit insurer.
Compensation problem (Correlation)

• Multi-agent problem where correlation becomes important.

• **Independent returns:**

• Law of Large Numbers: The bank’s return is deterministic.

• Implement the action that maximizes bank profits.

• Loan officer action and bank risk are unrelated.

• Bank cannot shift risk to the deposit insurer. Outcome socially optimal, no need to regulate.
Compensation problem (Perfect correlation)

- No idiosyncratic risk, only aggregate risk factor $\theta$.

- Bank can infer the action chosen and pay a wage if that is the required action (relative performance contract).

- Bank return is uncertain so the bank can shift the risk to the deposit insurer.

- Bank chooses an action that is less than the socially optimal (risk shifting).
Compensation problem (Partial correlation)

• Effort affects **mean return**. Implementing high action requires:
  
  – Contract pays a constant compensation when the return is high.
  
  – When the return is low, pays a lower compensation when the bank return is higher.

• Effort affects **correlation**. Safe (low correlation) project:
  
  – Bank rewards no correlation and punishes high correlation.
  
  – Bank can reward poor performance more than high performance.
Loan review and team production

• For both loan officers and loan reviewers, optimal compensation depends on the return $r$ as a function of the LR.

• Action of the other agent affects compensation.

• Loan reviewer process is another important factor that can help control risk.
Overview

• The paper provides an analysis of compensation schemes to induce certain behavior.

• More importantly, the compensation scheme depends on the organization of the institution.

• Hence, we cannot think of compensation in isolation.

• How is correlation determined? Industries/sectors, regions bank operates in? Effect of compensation?
Overall

- The paper focuses on an important question and brings in interesting insights.

- Some compensation schemes are more realistic than others (pay less when the employee does well when the bank performs poorly to induce low correlation).

- Compensation and short horizon.

- Can have parallels with herding literature.