

Human Capital Integration in Mergers and Acquisitions

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The model

time $t = 0$

- Two-divisional firm; each division employs a manager (M), and the two divisions are owned by corporate headquarters (CHQ)
- Managers first choose between *collaboration* OR *no collaboration*; then (privately) choose effort p

time $t = 1$

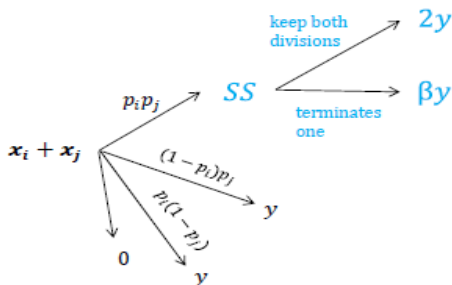
- Project outcome realizes; CHQ can terminate one division and transfer assets to other manager: outcome + *reallocation decision* = state s
- CHQ and (active) managers share surplus according to Shapley value:

$$v_i(s) = \sum_{C \subseteq N-i} \{\Pi(C \cup i) - \Pi(C)\} k(C, N)$$

i.e., marginal contribution to all coalitions C of active players

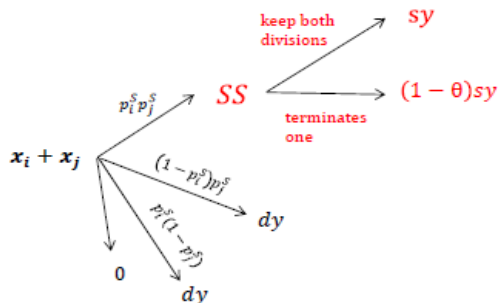
No Collaboration

- If scale economies/asset complementarity (β) are large enough, CHQ terminates one of the two divisions
- Managers' payoff non-monotonic in β
 - When both divisions active ($\beta < 4$), CHQ can form coalitions with each manager
 - Value of coalition $CHQ \cup M_j \uparrow$ when $\beta \uparrow$; M_i 's contribution \downarrow



Collaboration

- CHQ never terminates a division, for any $\theta > 0$ (human capital complementarity)
- Managers' payoff increasing in θ
 - Value of coalition $CHQ \cup M_j \downarrow$ when $\theta \uparrow$; M_i 's contribution \uparrow
- If θ is large enough, managers choose to collaborate



- 1. Incentives to collaborate stronger for high human capital complementarity (θ) and low scale economies ($\beta < 4$)**
 - θ increases managers' payoff in collaboration-subgame
 - when $\beta > 4$, CHQ reallocates resources, stimulating competition
- 2. For high θ , post-merger wages \uparrow , layoffs \downarrow , and HQ's payoff might \uparrow**
 - \uparrow in wages and \downarrow in layoffs increase managers' effort ($p \uparrow$); overall effect on CHQ payoff's can be positive
 - Incentives to merge aligned among shareholders and workers!
- 3. CHQ's commitment to "not reallocate" resources makes collaboration easier (harder) for $\beta \geq 4$ ($\beta < 4$)**

Comment #1: Diversifying mergers

- “Our paper predicts that collaboration incentives would be stronger in mergers between firms from seemingly different industries”
 - θ high and β low for firms in different industries
- However, non-monotonicity in β of Ms’ “no collaboration”-payoff challenges this implication
 - Suppose we compare mergers with β' (more different industry) $<$ β'' (more similar industry), but $\beta'' < 4$
 - For $\beta < 4$, Ms’ “no collaboration”-payoff decrease with β and, thus, incentives to collaborate increase with β
- Explicit incentives set ex-ante + agency frictions (and rents to managers) might avoid non-monotonicity
 - If reallocation doesn't happen in eqm, it shouldn't affect contract

Comment #2: Strategic Complementarity

- “*Mergers and acquisitions often disappoint, and human capital integration failure is consistently cited as one of the major reasons for disappointing merger outcomes.*”
- Collaboration choice sequential in the model: no multiple equilibria
- *Disappointment* doesn't happen in the model: no uncertainty about how the game will be played - some firms *always* collaborate; others *never*
- Digging deeper into strategic complementarity might be interesting
 - Collaboration is a more fragile eqm. (risk-dominated)
 - However, when θ high and β low, collaboration might be payoff-dominant

- A slightly different framework, with multi-tasking:

$$\pi_i = \underbrace{e_{i1}}_{\text{Competition}} + \frac{\theta}{2} * \underbrace{e_{i2}e_{j2}}_{\text{Collaboration}} - c(e_{i1}, e_{i2})$$

- Assume $c(e_{i1}, e_{i2})$ symmetric and slight uncertainty over θ
 - Focus on eqa. with $\{e_1 > 0, e_2 = 0\}$ OR $\{e_1 = 0, e_2 > 0\}$
- Keep persistent outcomes to allow for reallocation:
 - If $e_{i1}(1 + \beta) > e_{i1} + e_{j1}$, assets reallocated to i
 - In this case, j loses continuation value
- Limited-liability, effort not-contractible (only π_i), to allow explicit incentives but still rents to managers

Comment #3: Other comments

- Correlation between β and θ
 - If β interpreted as economies of scale, easier to think of $\text{Cov}(\theta, \beta) < 0$
 - If β interpreted as asset complementarity, hard to say
- Incentives to merge
 - Payoff comparison btw. stand-alone firm and two-divisional firm is not trivial (bargaining, effort choice, reallocation)
 - Firms with high θ seems to be more profitable and “fair”
- If β large, CHQ might want to reallocate resources ex-ante?
 - It might induce more effort by the manager

Conclusion

- Important question
- Rigorous analysis and novel results
- Very interesting paper!