

Topics in Financial Economics Lecture 7: Takeovers and the Collective Action Problem

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The Objectives

- The fundamental theory about takeovers of public firms.
- Key: the collective action problem
- Based on Grossman and Hart (1980) "takeover bids, the free rider problem, and the theory of the corporation".

The Pattern on the Performance of the Bidder Firm and the Target Firm

- Event studies of Merger&Acquisition (M&A): Investigate the share price movement before and after the announcement of the M&A.
- The target firm: Immediately rise (16-35%).
- The bidder firm: Insignificant in short run; negative or insignificant positive in long run.
- All the gains of M&A go to the target firm.
- Why is it a surprise? Think of a case where two parties are trading a good which is of value 0 to the seller and value 1 to the buyer.
- Insider Trader Mr Malcolm Calvert.

The Collective Action Problem in General

- Public good: a good has the feature of being non-exclusive, that is, if it is provided, it will be consumed by all on the site.
- The problem associated with providing public good: Each one thinks "let others do it and let me just enjoy it".
- Examples. Clean air; more generally environment; public order...
- A robber in a train...
- The Chinese communist regime...

The Collective Action Problem for the Public Firm

- In particular, for the public firm. Small investors have no incentive to monitor the management or to overthrow a bad management. These are public goods.
- If we cannot depend on the shareholders, it is suggested that we can depend on the market, particular takeover as a discipline against the bad management.
- If under your management the firm is worth 1 billion, but it could worth 2 billion under a good management, then the firm will be taken over by some who is capable of providing the good management.
- The basic idea of the economics: a good or a resource will flow into the hand of the one who values it the most. Now the good is the firm.
- However, the idea is not so correct. Takeover is also plagued with the collective action problem, as is shareholder monitoring.

The Impossibility of Efficient Takeover - 1

- A public firm with a large number (suppose 1 million) of investors. Each of them has one share.
- Under the current management, the firm is worth $\$q$ million. Under the new management of an entrepreneur, the firm is worth $\$v > q$ million.
- The entrepreneur (now not wealth constrained) wants to take over the firm. He offers a price p to the shareholders to buy their shares. Note that it is a tender offer, not a hostile takeover, namely, buying shares in the market.
- Therefore, the price p is paid only after the takeover succeeds; a single shareholder who sells his share to the entrepreneur gets nothing if the takeover fails.
- The takeover succeeds if half of the shareholders tender their shares.
- The takeover, if succeeding, costs the entrepreneur c million dollars.

The Impossibility of Efficient Takeover - 2

- For a single shareholder: If I say yes, then I get p if the takeover succeeds and q if it fails; if I say no, then I keep my share which is worth v if the takeover succeeds (so the new management is installed) and q if it fails.
- So he tenders his share only if

$$p \geq v$$

- But then the entrepreneur gets, if the takeover succeeds, $v - p - c \leq -c$.
- Therefore, she will not even try to make a takeover offer. Efficient takeover is impossible.
- How is this related to the collective action problem?

- To encourage efficient takeover, we need to create divergence in valuation of the firm between untendered shareholders and the raider.
- Suppose untendered shareholders get v_s instead of v if the takeover succeeds. Then the takeover can succeed at $p = v_s$ and the raider's profit is $\pi = v - v_s - c$. To encourage efficient takeover, v_s must be reduced
- One way to achieve the reduction is to permit a successful raider to reduce the firm's value by a certain amount, ϕ , which the raider is permitted to pay to herself.
- So $v_s = v - \phi$. Then $\pi = \phi - c$. If $\phi \geq c$, the efficient takeover happens.
- The optimal dilution. If there is uncertainty of c , then the optimal $\phi = c$. What if there is uncertainty?

- Possible ways of dilution: a salary to the raider; a number of news issued to the raider; sell the target firm's asset at below its true value to another company owned by the raider; sell the target firm's products at below market price to the company, etc.
- The latter two kinds of transactions are generally prohibited. But Grossman and Hart (1980) argue that they can improve the ex ante efficiency.

Share Concentration

- Another element facilitating efficient takeover is the existence of large shareholders. Intuition.
- Suppose a shareholder holds α portion of shares.
- He will have incentive to drive out the bad management and to install the good management. Suppose he mounts the raid.
- On the one hand, if $\alpha(v - q) > c$, it is profitable for him to mount the raid: The value of his shares increases by $\alpha(v - q)$, if the raid is successful.
- On the other hand, to make small investors tender their shares, $p \geq v$ as before. Therefore, he cannot gain more than $\alpha(v - q)$ from a successful raid.
- Conclusion: Efficient takeover happens if and only if

$$\alpha(v - q) > c$$

- This is one reason why share concentration benefits the value of the firm.

- Explain the pattern of M&As
- Hostile takeovers
- Collective action problem and financial intermediation.
- The final exam.