

The market for corporate control: Takeovers

- Takeovers: Hostile vs friendly
- Two motivations for takeovers
 - The *ex-post* rationale: benefits from a new management team.
 - The *ex-ante* rationale: disciplining effect on incumbent management.
- *Tradeoff efficiency vs rent extraction*: Firms want to enjoy benefits from takeovers, but want to limit (or appropriate parts of) raiders' gain.
- Model: Fixed investment. Intermediate date: raider appears. Initial date: corporate charter design; investment.
- If no takeover
 - investors' value: $v = p_H(R - R_b)$
 - incumbent's benefit: $w = p_H R_b$
 - total: $v + w = p_H R$
- If takeover: investors' value: \hat{v} ; raider's private benefit: \hat{w} .
- *Corporate charter*: defining the terms under which the raider can take control – for what values \hat{v} and \hat{w} should a transfer occur?
 - Obviously, a narrow view of the corporate charter.
- Raider is not credit rationed.
- Investors' value in case of a takeover, \hat{v} , is publicly known. Raider's value, \hat{w} , is raider's private information. Cumulative distribution function $H(\hat{w})$, density $h(\hat{w})$.

- Suppose first also incumbent manager is not credit constrained.
- The firm commits to a sale price P of the firm to a potential raider such that $\hat{v} + \hat{w}^* = P$, where \hat{w}^* is a cutoff value for the raider's gain: The raider takes over the firm and pays P if and only if $\hat{w} \geq \hat{w}^*$.
- The probability of takeover: $1 - H(\hat{w}^*) = 1 - H(P - \hat{v})$.
- Entrepreneur's utility equals NPV

$$U_b = (v + w)H(\hat{w}^*) + (\hat{v} + \hat{w}^*)[1 - H(\hat{w}^*)] - I$$
- The entrepreneur chooses the P , implicitly the \hat{w}^* , that maximizes U_b .
 - Resemblance with monopoly pricing: View $[1 - H(\hat{w}^*)]$ as a demand curve. The higher is \hat{w}^* , the higher is the gain if the firm is sold, but then also the lower is the chance that the firm *is* sold.
- Socially inefficient P – too few takeovers.
- Other forces work the other way.
 - Agency problems in the raiding firm, say with managers exerting real control, may lead to too many raids.
 - Raider costs related to preparing a bid for the firm: Suppose \hat{w} is known to the raider only after he incurs c . If c is too high, then the target firm may have to lower P in order to get the raider to participate.
 - When the incumbent manager is credit rationed, lowering P increases the chances for a takeover and therefore increases pledgeable income.

Incentive effects of takeover threats

- Two views
 - Takeovers are good for governance – they get incumbent managers to work hard.
 - Takeover threats lead to short-term behavior among managers – *myopia*.
- A model of takeover-induced myopia
 - Myopia – putting too much weight on the present relative to the future – here in the form of underinvestment in future profitability.
 - Success probability under incumbent management is $p + \tau$, where $p \in \{p_H, p_L\}$, depending on manager effort, and τ is the result of an investment made by manager before any takeover takes place.
 - Choice of τ is unobservable.
 - Investment cost $\chi(\tau)$, convex.
 - R_b is the entrepreneur's return if success.
 - H is the probability of no takeover.
 - The entrepreneur chooses τ to maximize
$$\tau R_b H - \chi(\tau)$$
 - Two reasons for underinvestment
 - The entrepreneur needs outside capital and lets investors in, so that $R_b < R$.
 - There is a chance for a takeover, so that $H < 1$.
 - Related forms of myopic managerial behavior
 - Entrenchment – creating obstacles for the takeover.
 - Posturing – obtaining good short-term results in order to appear more efficient than one is.

Takeovers in practice

- Single bidder.
- *Tender offer*: the raider makes the price offer, shareholders individually decide whether or not to accept.
 - Even now, the corporate charter may influence the price, though.
 - *Restricted offer*: restricted to a certain fraction of outstanding shares; or unrestricted
 - *Conditional offer*: conditional on the raider acquiring a certain fraction of the shares; or unconditional.
- Suppose raider needs a fraction κ in order to gain control, $0 < \kappa < 1$.
- Investor value with a takeover: \hat{v} ; without: v .
- A *value-enhancing takeover*: $\hat{v} > v$.
 - A value-decreasing takeover: $\hat{v} < v$.
- Free-riding shareholders
- Assume $\hat{v} - v = 1$.
- No private benefit to raiders: $\hat{w} = 0$.
- Redefine P as the premium over v offered by the raider, that is, raider offers $v + P$, $0 \leq P \leq 1$.
- A *continuum* of shareholders, of *mass* 1.
 - Continuum: no shareholder is *pivotal*.

- Let β be the probability, according to shareholders, that the takeover will be successful.

- Continuum of shareholders implies that β is not affected by any single shareholder's decision to accept or not.

- In equilibrium, $\beta = P \Leftrightarrow \beta\hat{v} + (1 - \beta)v = v + P$

- Shareholders are indifferent between selling and keeping shares

- In equilibrium, raider buys a fraction κ of the shares.

- Raider earns nothing from the value enhancement:

$$\pi = \kappa[\beta(\hat{v} - v) - P] = \kappa[\beta - P] = 0.$$

- Free-riding shareholders take the entire value enhancement that the raider creates.

- Private benefit to raider: $\hat{w} > 0$

- No change in equilibrium beliefs among shareholders: $\beta = P$.

- So the raider gets to keep all his private benefit:

$$\pi = \kappa[\beta - P] + \beta\hat{w} = P\hat{w}.$$

- Therefore, it pays for raider to increase the price, and so $P = 1$, and therefore $\beta = 1$.

- With *dispersed ownership*, a raider keeps all his private benefit and gets none of the value enhancement.

- With a large current shareholder, even some of the private benefit of the raider may end up at this large shareholder.

- *Toehold*: The raider already owns a fraction $\theta < \kappa$ of the firm's shares.

- The raider's profit is:

$$\begin{aligned}\pi &= (\kappa - \theta)[\beta(\hat{v} - v) - P] + \theta\beta(\hat{v} - v) \\ &= \theta P,\end{aligned}$$

since $\hat{v} - v = 1$ and $\beta = P$.

- The optimal bid is $P = 1$, so $\pi = \theta$.
 - The raider retains the value enhancement of his initial shares.
 - The implication is that block shareholding facilitates takeovers by block shareholders.
- *Dilution* of minority shareholders' value

- Examples: tunneling; minority buyout.
- Suppose the raider is able to expropriate a fraction ϕ of minority owners' value increase.
- Without dilution: $\hat{v} - v = 1$, and $\hat{w} = 0$.
- With dilution: raider gets $\hat{w} = \phi(\hat{v} - v) = \phi$, and current shareholders get $(1 - \phi)(\hat{v} - v) = 1 - \phi$.
- Shareholders' beliefs about the probability of a successful raid is again such that they are indifferent between selling and holding shares:

$$\beta(1 - \phi) = P$$

- The raider will not have to bid more than $P = 1 - \phi$. For bids $P \leq 1 - \phi$, his profit, when buying a fraction κ of the shares to obtain control, is:

$$\begin{aligned}\pi &= [\kappa + (1 - \kappa)\phi]\beta - \kappa P \\ &= [\kappa + (1 - \kappa)\phi]\beta - \kappa\beta(1 - \phi) = \beta\phi.\end{aligned}$$

- Raider maximizes profit at $P = 1 - \phi$, getting $\pi = \beta\phi$.
 - He gets the dilution value on *all* shares.
- Takeover defenses
 - They work in the opposite direction of dilution, making it harder for the raider to acquire the firm.
 - An example of a *poison pill*: a scheme allowing shareholders to buy new shares at a discount in case of a takeover.
 - Making it possible for current shareholders to appropriate all or part of raider's private benefit, \hat{w} .
- A finite number of shares
 - Calculating each shareholder's equilibrium strategy.
 - One vs many shares per shareholder.
 - When a shareholder holds several shares, his tendering one of his shares increases the value of his other shares. This increases his incentives to tender, and therefore reduces the free-rider problem and increases the scope for takeovers.

- Value-decreasing takeovers: $\hat{v} < v$.
 - Necessarily, the raider must have private benefits from the takeover: $\hat{w} > 0$.
 - Suppose price P is such that $\hat{v} - v < P < 0$.
 - Tendering an offer exerts a *negative externality* on non-tendering shareholders – the same way as there is a positive externality when the takeover is value-enhancing.
 - If a value-decreasing takeover takes place, it is best for current shareholders that the raider buys as many shares as possible: *one share – one vote*.

- Takeovers with multiple bidders: *bidding contests*.
 - Preemptive behavior:
 - early high price
 - toehold

- Managerial resistance to takeovers
 - Conflict of interest
 - Formal vs real authority