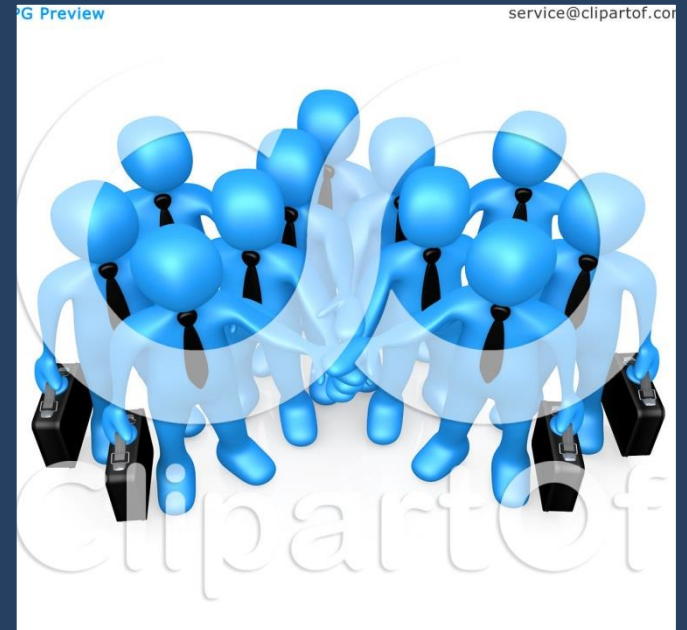


Business Analysis and Valuation

Valuation in M&A



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Agenda

Issues in valuing acquisition targets

The valuation process

Valuing synergies

The market for corporate control

Issues in valuing acquisition targets

- *Acquisition valuations are complex, because the valuation often involved issues like synergy and control, which go beyond just valuing a target firm.*
- *It is important on the right sequence, including:*
 - When should you consider synergy?
 - Where does the method of payment enter the process.
- *Can synergy be valued, and if so, how?*
- *What is the value of control?*
- *How can you estimate the value?*

The valuation process in acquisition

- *Step 1: Establish a motive for the acquisition*
- *Step 2: Choose a target*
- *Step 3: Value the target with the acquisition motive built in.*
- *Step 4: Evaluate the possible payment solutions: cash or stock, and if cash, arrange for financing debt or equity.*
- *Step 5: Set a valuation range for the negotiation phase.*

Step 1: Motives behind acquisitions

- (1) Simplest rationale is **undervaluation**, i.e., that firms that are undervalued by financial markets, relative to true value, will be targeted for acquisition by those who recognize this anomaly.
- (2) A more controversial reason is **diversification**, with the intent of stabilizing earnings and reducing risk.
- (3) **Synergy** refers to the potential additional value from combining two firms, either from operational or financial sources.
 - Operating Synergy can come from **higher growth** or **lower costs**
 - Financial Synergy can come from **tax savings**, **increased debt capacity** or **cash slack**.

Step 1: Motives behind.... (ctd)

- (4) Poorly managed firms are taken over and restructured by the new owners, who lay claim to the additional value.*
- (5) Managerial self-interest and hubris are the primary, though unstated, reasons for many takeovers.*

Step 2: Choose a target firm

<i>If motive is</i>	<i>Target firm</i>
<i>Undervaluation</i>	<i>trades at a price below the estimated value</i>
<i>Diversification</i>	<i>is in a business which is different from the acquiring firm's business</i>
<i>Operating Synergy</i>	<i>have the characteristics that create the operating synergy</i> <i>Cost Savings: in same business to create economies of scale.</i> <i>Higher growth: should have potential for higher growth.</i>
<i>Financial Synergy</i>	<i>Tax Savings: provides a tax benefit to acquirer</i> <i>Debt Capacity: is unable to borrow money or pay high rates</i> <i>Cash slack: has great projects/ no funds</i>
<i>Control</i>	<i>badly managed firm whose stock has underperformed the market.</i>
<i>Manager's Interests</i>	<i>has characteristics that best meet CEO's ego and power needs.</i>

Step 3: Value Target Firm with motive built in

<i>If motive is</i>	<i>Target firm</i>
<i>Undervaluation</i>	<i>Value target firm as stand-alone entity: No extra premium</i>
<i>Diversification</i>	<i>Value target firm as stand-alone entity: No extra premium</i>
<i>Operating Synergy</i>	<i>Value the firms independently. Value the combined firm with the operating synergy Synergy is the difference between the latter and former Target Firm Value = Independent Value + Synergy</i>
<i>Financial Synergy</i>	<i>Tax Benefits: Value of Target Firm + PV of Tax Benefits Debt Capacity: Value of Target Firm + Increase in Value from Debt Cash Slack: Value of Target Firm + NPV of Projects/ Target</i>
<i>Control</i>	<i>Value of Target Firm run optimally</i>
<i>Manager's Interest</i>	<i>Value of Target Firm: No additional premium</i>

Step 4: Decide on payment mechanism

- *Generally speaking, firms which **believe that their stock is under valued** will not use stock to do acquisitions.*
- *Conversely, firms which believe that their stock is **over or correctly valued** will use stock to do acquisitions.*
- *Not surprisingly, the **premium paid is larger** when an acquisition is **financed with stock** rather than cash.*
- *There might be an **accounting rationale** for using **stock** as opposed to cash. You are allowed to use pooling instead of purchase.*
- *There might also be a **tax rationale** for using stock. Cash acquisitions create tax liabilities to the selling firm's stockholders.*

Step 5: Set a valuation range

The value of control

- *The value of control should be inversely proportional to the perceived quality of that management and its capacity to maximize firm value.*
- *Value of control will be much greater for a poorly managed firm that operates at below optimum capacity than it is for a well managed firm.*
- *Value of Control = Value of firm, with restructuring - Value of firm, without restructuring*
- *Negligible or firms which are operating at or close to their optimal value*

Step 5: Set a valuation range

Establishing the Exchange Ratio in a Stock for Stock Exchange

- *Correct Exchange Ratio to use in a Valuation = Value per Share of Target Firm (with control premium and target-controlled synergies) / Value per Share of Bidding Firm*
- *If the exchange ratio is set **too high**, there will be a **transfer of wealth from the bidding firm's stockholders to the target firm's stockholders.***
- *If the exchange ratio is set **too low**, there will be **transfer of wealth from the target firm to the bidding firm's stockholders.***

After the hostile takeover..

- *Many of the hostile takeovers were followed by an increase in leverage, which resulted in a downgrading of the debt. The leverage was quickly reduced, however, with proceeds from sale of assets.*
- *There was no significant change in the amount of capital investment in these firms, but investment was more focused on core business.*

Valuing Synergy

- *The key to the existence of synergy is that the **target firm controls a specialized resource** that becomes more valuable if combined with the bidding firm's resources. The specialized resource will vary depending upon the merger:*
 - *In horizontal mergers:* economies of scale, which reduce costs, or from increased market power, which increases profit margins and sales. (Examples: Fiat-Chrysler, Chase and Chemical)
 - *In vertical integration:* Primary source of synergy here comes from controlling the chain of production much more completely (Ferrero-Oltan)
 - *In functional integration:* When a firm with strengths in one functional area acquires another firm with strengths in a different functional area, the potential synergy gains arise from exploiting the strengths in these areas (Google-Youtube).

Valuing operating synergy

- (a) What **form** is the synergy expected to take? Will it **reduce costs** as a percentage of sales and increase profit margins (as is the case when there are economies of scale)? Will it **increase future growth** (as is the case when there is increased market power)?)*
- (b) **When can the synergy be reasonably expected to start affecting cashflows?** (Will the gains from synergy show up instantaneously after the takeover? If it will take time, when can the gains be expected to start showing up?)*

A procedure for valuing synergy

- (1) the firms involved in the merger are **valued independently**, by discounting expected cash flows to each firm at the weighted average cost of capital for that firm.*
- (2) the **value of the combined firm, with no synergy**, is obtained by adding the values obtained for each firm in the first step.*
- (3) The **effects of synergy are built into expected growth rates and cashflows**, and the combined firm is re-valued with synergy.*

Value of Synergy = Value of the combined firm, with synergy - Value of the combined firm, without synergy

Synergy Effects in Valuation Inputs

- *If synergy is Valuation Inputs that will be affected are*
- *Economies of Scale Operating Margin of combined firm will be greater than the revenue-weighted operating margin of individual firms.*
- *Growth Synergy More projects: Higher Reinvestment Rate (Retention)*
- *Better projects: Higher Return on Capital (ROE)*
- *Longer Growth Period*

Again, these inputs will be estimated for the combined firm.

Financial Synergy

- *Sources of Financial Synergy*
 - *Diversification*: Acquiring another firm as a way of reducing risk cannot create wealth for two publicly traded firms, with diversified stockholders, but it could create wealth for private firms or closely held publicly traded firms.
 - *Cash Slack*: When a firm with significant excess cash acquires a firm, with great projects but insufficient capital, the combination can create value.
 - *Tax Benefits*: The tax paid by two firms combined together may be lower than the taxes paid by them as individual firms.
 - *Debt Capacity*: By combining two firms, each of which has little or no capacity to carry debt, it is possible to create a firm that may have the capacity to borrow money and create value.

I. Diversification: No Value Creation?

- *A takeover, motivated only by diversification considerations, has no effect on the combined value of the two firms involved in the takeover. The value of the combined firms will always be the sum of the values of the independent firms.*
- *In the case of private firms or closely held firms, where the owners may not be diversified personally, there might be a potential value gain from diversification.*

II. Cash Slack

- *Managers may reject profitable investment opportunities if they have to raise new capital to finance them.*
- *It may therefore make sense for a company with **excess cash and no investment opportunities** to take over a cash-poor firm with good investment opportunities, or vice versa.*
- *The **additional value** of combining these two firms lies in the **present value of the projects** that would not have been taken if they had stayed apart, but can now be taken because of the availability of cash.*

Valuing Cash Slack

- *Assume that Company A has a severe capital rationing problem, that results in approximately \$500 million of investments, with a cumulative net present value of \$100 million, being rejected.*
- *Company B has far more cash than promising projects, and has accumulated \$4 billion in cash that it is trying to invest. It is under pressure to return the cash to the owners.*
- *If Company B takes over Company A, it can be argued that the value of the combined firm will increase by the synergy benefit of \$100 million, which is the net present value of the projects possessed by the latter that can now be taken with the excess cash from the former.*

III. Tax Benefits

- (1) If one of the firms has tax deductions that it cannot use because it is losing money, while the other firm has income on which it pays significant taxes, the combining of the two firms can lead to tax benefits that can be shared by the two firms. The value of this synergy is the present value of the tax savings that accrue because of this merger.*
- (2) The assets of the firm being taken over can be written up to reflect new market value, in some forms of mergers, leading to higher tax savings from depreciation in future years.*

Valuing Tax Benefits: Tax Losses

- *Assume that you are Best Buys, the electronics retailer, and that you would like to enter the hardware component of the market. You have been approached by investment bankers for Zenith, which while still a recognized brand name, is on its last legs financially.*
- *The firm has net operating losses of \$ 2 billion. If your tax rate is 36%, estimate the tax benefits from this acquisition.*
- *If Best Buys had only \$500 million in taxable income, how would you compute the tax benefits?*
- *If the market value of Zenith is \$800 million, would you pay this tax benefit as a premium on the market value?*

Valuing Tax Benefits: Asset Write Up

- *One of the earliest leveraged buyouts was done on Congoleum Inc., a diversified firm in ship building, flooring and automotive accessories, in 1979 by the firm's own management.*
 - After the takeover, estimated to cost \$400 million, the firm would be allowed to write up its assets to reflect their new market values, and claim depreciation on the new values.
 - The estimated change in depreciation and the present value effect of this depreciation, discounted at the firm's cost of capital of 14.5% is shown below:

Special valuation cases: CLV

- *One of the most required assets in buyer's perspective is target firm's existing customer base.*
- *In some industries customers are source of revenue not only because of the price/fare they pay but also because they enhance other potential revenue sources (i.e. advertisement):*

Empirical Evidence on Synergy

- *If synergy is perceived to exist in a takeover, the value of the combined firm should be greater than the sum of the values of the bidding and target firms, operating independently.*

$$V(AB) > V(A) + V(B)$$

- *Operating synergy was the primary motive in one-third of hostile takeovers. (Bhide)*

Operational Evidence on Synergy

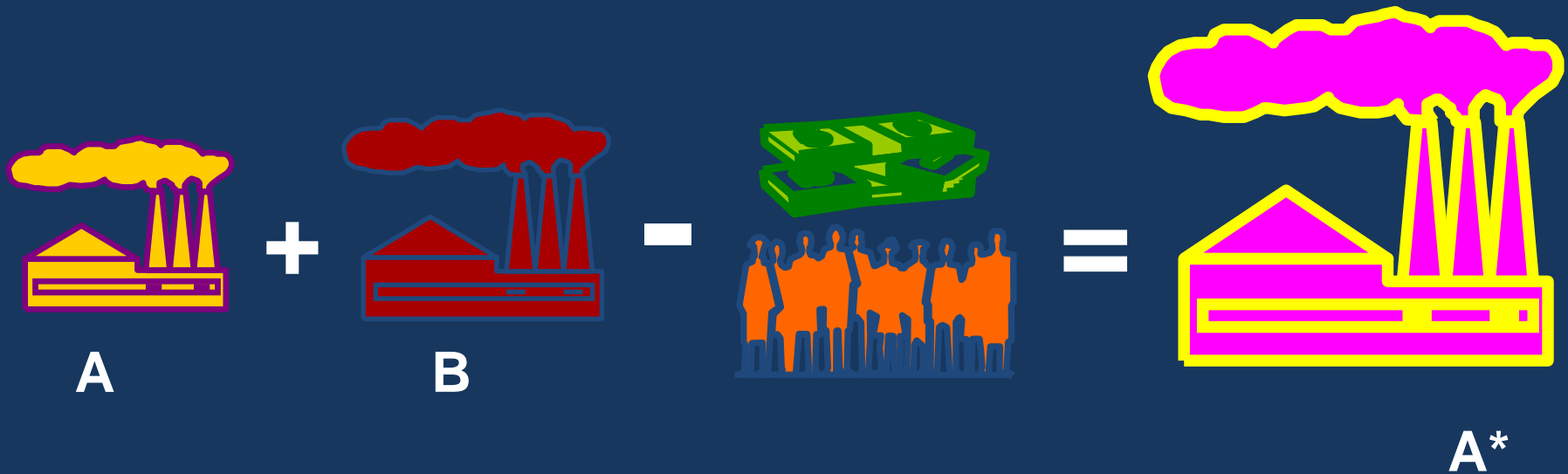
- *A stronger test of synergy is to evaluate whether merged firms improve their performance (profitability and growth), relative to their competitors, after takeovers.*
- *Large number of acquisitions that are reversed within fairly short time periods. About 20.2% of the acquisitions made between 1982 and 1986 were divested by 1988. In studies that have tracked acquisitions for longer time periods (ten years or more) the divestiture rate of acquisitions rises to almost 50%.*

Who gets the benefits of synergy?

- *The sharing of the benefits of synergy among the two players will depend in large part on whether the bidding firm's contribution to the **creation of the synergy is unique or easily replaced**. If it can be easily replaced, the bulk of the synergy benefits will accrue to the target firm. If it is unique, the sharing of benefits will be much more equitable.*

The market for corporate control

Value creation in the acquisition process
(acquirer's perspective)



$$V(A^*) > V(A) + V(B) - P(A/B)$$

The market for corporate control

- *Competition for a target*



- *Auction mechanisms*



The market for corporate control

Key factor in the market for corporate control

- *Integration costs*



- *Transaction costs*



The market for corporate control

- *Imperfect competition in the market for corporate control*
 - Bidders' selection
 - Asymmetric information
 - Buyer's specific costs/benefits



The market for corporate control

- *Subjective Valuations*
Non value-maximizing
(υβρισ)



The market for corporate control

Unique benefits



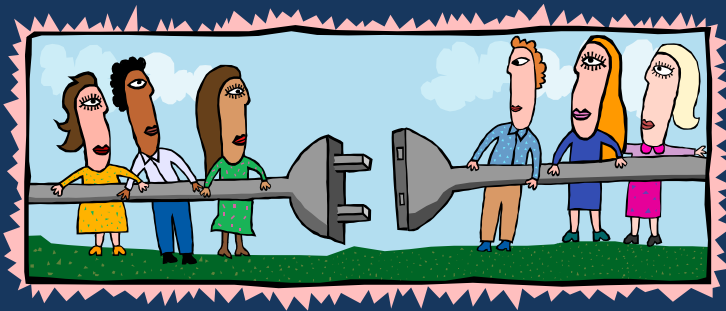
Buyers' alliances

Information advantage



The market for corporate control

Lower transaction costs



Cheaper integration

The market for corporate control

All potential gains that are

- Visible
- Achievable to all potential buyers
- Easily quantifiable

Will be reduced/eliminated by competition among potential buyers

The other potential gains (the unique ones) are more risky because are heavily dependent on integration (cost/time)

Course at a glance

