In-Class Lecture

Mergers and Acquisitions

Advanced Financial Management

Julio A. Crego

Key takeaways

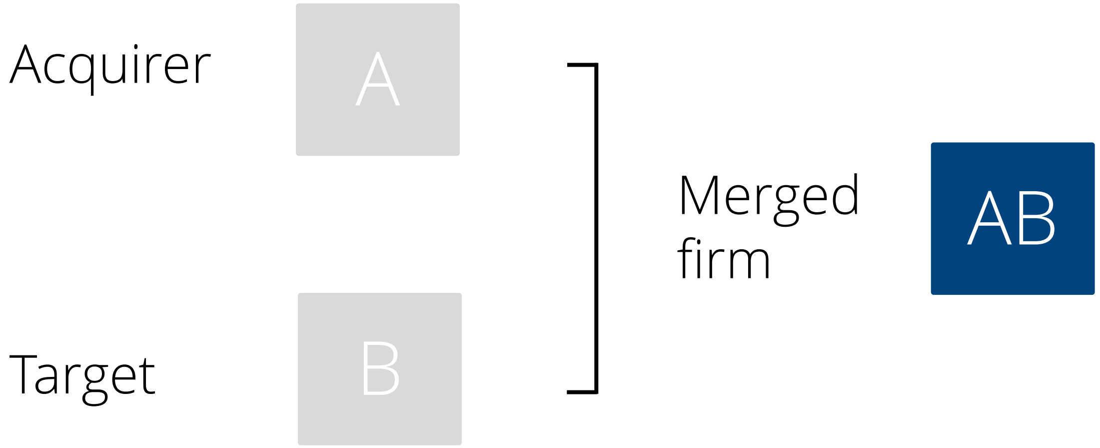
01 **Mergers and Acquisitions represent one key type of investments for companies to generate growth and improve the enterprise value**

02 **The enterprise value might benefit from M&A due to the creation of synergies that can arise from revenues, costs, assets management or debt capacity**

03 **Ultimately, the price of the acquisition will depend on the valuation of the target company, the estimated synergies and the negotiation process**

Estimating merger gains

Notation



NPV of M&As

Gain from merger:

$$Gain = PV_{AB} - (PV_A + PV_B)$$

Cost of a merger:

$$Cost = Amount\ paid_B - PV_B$$

- Amount paid can be in:
  - Cash (cash amount)
  - Stock: $n \cdot P_{AB}$, where n is number of shares issued in the *new merged entity* that go to the target

NPV of the acquisition:

$$\begin{aligned} \boldsymbol{NPV} &= \boldsymbol{Gain - Cost} \\ &= \boldsymbol{PV_{AB} - (PV_A + Amount\ paid_B)} \end{aligned}$$

Who benefits from a takeover?

Returns to Bidders and Targets in the US - event study results

	1973-79	1980-89	1990-1998
Target	24.8%	23.9%	23.3%
Bidder	-4.5%	-3.1%	-3.9%
Combined	0.1%	3.2%	1.6%
Hostile	8.4%	14.3%	4.0%
Own Industry	29.9%	40.1%	47.8%
All Cash	38.3%	45.3%	27.4%
Premium	47.2%	37.7%	34.5%

Announcement returns

Deal characteristics

Acquisition premium

Google takeover of Fitbit

Reuters reported on November 1st 2019 that Google had offered $7.35 per share on October 28th.

Check article – [Google concedes on Fitbit data]

Exercise 1

The market values of buyer and seller are €2 billion and €1.1 billion, respectively. The buyer thinks that the combined companies can cut operating costs by €40 million per year in perpetuity.

The buyer reckons that a successful cash bid will probably cost €1.4 billion. Alternatively, it is considering offering sellers shareholders a 33% stake in the merged firm. Assume cost of capital at 11%.

What is the gain, cost and NPV of two alternatives?

Exercise 2

As treasurer of Company A, you are investigating the possible acquisition of Company B. You have the following basic data:

Company	**A**	**B**
Next year's expected EPS	€5	€1.5
Next year's expected Div_{ps}	€3	€0.8
Number of shares	1,000,000	600,000
Stock price	€90	€20

You estimate that investors currently expect a steady growth of about 6% in B's earnings and dividends. Under new management this growth rate would be increased to 8% per year, without any additional capital investment required. Further, under new management next year's dividend will stay the same.

a. What is the gain from the acquisition?
b. What is the cost of the acquisition if A pays €25 in cash for each share of B?
c. What is the cost of the acquisition if A offers one share of A for every three shares of B?
d. How would the cost of cash offer and the share offer change if expected growth rate of B were not changed by the merger?

News discussion

1. Does it seem to you that the premium paid by Google for Fitbit is too high? Why? What piece of evidence can be used to guide your answer.

2. What are the risks of the merger?

3. What type of synergies may Google be aiming to take advantage of?

Exercise 3

Firm A produces computers and buys the microchips from Firm B (1 per computer). Firm A pays 100€ per microchip and 10€ in transport costs per microchip. Firm B requires 80€ to produce each microchip, and it does not require any input except a factory. Firm A is contemplating buying Firm B and immediately relocating the factory to eliminate transport costs entirely. If they do so, they need to incur a cost of 10,000 to construct the new factory, but they expect to sell the old factory in 3 years for 9,000. The discount rate is 5% and the firms live forever without growing or shrinking. The value of firm A is 1 million and it only produces computers.

a) Compute the gain of the acquisition if Firm A sells 100 computers a year
b) Compute the minimum number of computers such that the gain of the acquisition is positive
c) Assume the new factory is bigger and allows Firm A to produce 50% more computers than before. What is the gain of the acquisition if Firm A sold 100 computers before the acquisition?

Exercise 4

Firm C's market capitalization on 1st January 2022 is 100, and Firm D's market capitalization price is 25. On 2nd January 2022, Firm C publicly announced that they will buy Firm D on 2nd June 2022. The gain of the acquisition equals 10 (value on the 2nd of January). Both firms have the same number of shares. Consider an annual discount rate (risk-free) of 5%, a ROE of 8% and a 100% payout for both firms (except in d). If needed, assume that firms have no debt. Solve the first two questions under the two different acquisition methods:

1. Firm C pays 30 to buy Firm D
2. Firm C exchanges one share for four shares of D

a) Compute the return of Firm D from the 1st of January 2022 to the 3rd of January 2022

b) Compute the return of Firm C from the 1st of January 2022 to the 3rd of January 2022

c) Find the payment to buy Firm D that makes the return for Firm D from the 1st of January 2022 to the 3rd of January 2022 equal to 0

d) Find the exchange ratio to buy Firm D that makes the return for Firm D from the 1st of January 2022 to the 3rd of January 2022 equal to 0